



THE THEORY OF DIVERSITY AND GROUP PERFORMANCE

Programme for the Practice of Diversity Management

Department of Immigration and Multicultural Affairs in Cooperation with
the Australian Centre for International Business

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THE PROGRAMME FOR THE PRACTICE OF DIVERSITY MANAGEMENT

The Programme for the Practice of Diversity Management is a collaborative arrangement between the Department of Immigration and Multicultural Affairs (DIMA) and the Australian Centre for International Business (ACIB) funded through DIMA's Productive Diversity Partnership Programme.

The mission of the Programme for the Practice of Diversity Management is to meet the practical needs of business by developing a business case for productive diversity, providing business models for diversity management, and creating toolkits and checklists for assessing diversity.

The Programme invites your firm to become a member of the electronic diversity network, which brings Australian business together to promote good diversity practices.
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EXECUTIVE SUMMARY

1.0 INTRODUCTION

1.1 Diversity in Context

The increasingly diverse workforce and growing importance of job redesign to create self-managing and innovation centric workers present new challenges for organisations in managing diversity. Rather than addressing only one aspect of the employment situation, predominantly the conditions surrounding the exchange of an individual's labour for compensation, diversity management identifies the need to address intra-group and inter-group interactions. Thus, to examine diversity in groups, theories of diversity are explored.

1.2 Defining Diversity

Considering the multiple interpretations of the meaning of diversity in the literature, diversity is summarised as capturing difference in observable and unobservable characteristics. These characteristics include race, ethnicity, gender, age, tenure, functional background, sexual orientation, socio-economic status, education, physical and mental ability, values, and attitudes. The recognition of the complexities of 'diversity' as a concept forms part of the agenda for better understanding the complexity of productively managing diversity at work.

1.3 Relational Demography- The Study of Diversity

Relational demography is a *technique* rather than a theory. That is, it is a technique for measuring and analysing difference and interaction or the dynamics of interaction. For example, relational demographers have considered how those that are different are integrated, or not, into work groups, the effects of 'difference' on absenteeism, organisational commitment, turnover, and performance.

1.4 Defining Teams, Workgroups, and Group Performance

There are numerous terms used to describe groups of people who work together in organisations: work teams, groups, self-managing teams, and autonomous work groups are some of the most commonly used terms. The level of autonomy of the groups distinguishes between these various terms. The output produced by a group is not truly representative of a group's performance. The personal experience of the group's members and the subsequent ability of the group to perform in the future also define the group's performance.

2.0 THEORIES IN USE IN DIVERSITY RESEARCH

2.1 Introduction

The three most commonly invoked diversity theories are social categorisation, the similarity/attraction approach, and the informational diversity and decision-making perspective. These theoretical perspectives produce differing, and sometimes contradictory, predictions and results.

2.2 Information and Decision-Making Approach

The information and decision-making approach to the study of diversity purports that diversity is beneficial for group performance. Diversity brings to the group greater potential access to information networks unavailable in a homogenous workgroup. This demands of the group greater cognitive processing and more careful analysis of information.

2.3 Social Categorisation Theory

Social categorisation theory focuses on identifying the social cognitive processes that are responsible for in-group and out-group formation and the acquisition of group identification, which shapes inter- and intra-group relations, stereotypes and cognitive biases.

2.4 Similarity/Attraction Paradigm

The similarity/attraction paradigm focuses on the preferences of individuals to interact with individuals with whom they share common life experiences or values. Similarity/attraction leads to increased communication, high social integration and a desire to sustain group affiliation.

3.0 EFFECTS ON GROUP PROCESSES

3.1 Introduction

Whilst information and decision-making theories predict positive effects from diversity in group composition, social categorisation theory and similarity and attraction theories predict negative effects on group processes.

3.2 Information and Decision-Making Effects on Group Processes

The information and decision-making approach predicts three diversity effects on group processes: (1) diversity will increase the cognitive processing demands of work groups; (2) diversity will improve analysis in the group, leading to more careful analysis of issues; (3) diversity will lead to better use of information in the work group.

3.3 Social Categorisation Effects on Group Processes

The literature on the effects of diversity on group process predicts that social categorisation results in conflictual relations, communication problems, and factionalism within the group, as group members fail to identify with diverse members who are categorised into out-groups. Group members then deal with each other based on the cognitive biases and assumptions that are associated with corresponding social categories.

3.4 Similarity/Attraction Effects on Group Processes

Homogeneity signals interpersonal similarities, which encourages liking, effective communication and cohesiveness and effective group processes. In a diverse group, due to a lack of interpersonal similarity, individuals within the group have no points in common to develop their mutual feelings towards each other. As a result, feelings that promote attraction and self-validate one's own self-esteem do not eventuate.

4.0 POTENTIAL MODERATORS

4.1 Introduction

The overall effect of diversity is likely to have a curvilinear effect. This curvilinear effect may be moderated by contextual factors such as the group's structure, in terms of task type, task complexity, task interdependence, group longevity, the team's and its members' identities and culture. These structural characteristics of the group moderate the effects of social categorisation and similarity/attraction on information and decision-making processes.

4.2 Task Type

Different types of diversity have varying effects on performance depending on the type of task at hand. Personality homogeneity leads to better performance in performance tasks while personality heterogeneity leads to better performance in intellectual tasks, creative idea generation, and decision-making tasks. Ability diversity leads to better performance in all task types.

4.3 Task Complexity and Task Interdependence

When tasks are complex, although diversity may lead to group process problems, from an information and decision-making perspective diversity can bring many benefits in terms of group performance. When tasks require interdependence, depending on the complexity of the task, diversity can have varying effects on performance.

4.4 Time/Group Longevity

Longitudinal research shows that the negative effects of social categorisation and similarity/attraction lessen with the longevity of the group; as it forms, storms and norms.

4.5 Common Goals and Identity & Collective Culture

Perceived similarity based on adherence to organisational norms moderates the negative effects of diversity due to social categorisation and similarity/attraction. HRM strategies should re-categorise individual involvement in a way that enhances the group's identification with a common task and reduces the tendency to create socially irrelevant in-groups over time.

5.0 EFFECTS ON GROUP PERFORMANCE

5.1 Information and Decision-Making

Diversity is said to bring new knowledge, skills, information, and unique perspectives to bear on problem solving and decision-making processes. This should improve group performance via information exchange, the consideration of alternative solutions, and the analysis of varied perspective, which results in higher quality decisions and solutions, creativity and innovation.

5.2 Social Categorisation and Similarity/Attraction

The main effects of social categorisation and similarity/attraction on the performance of diverse groups are reduced attraction to the group; lower levels of commitment; an inability to meet member needs; a lack of social integration; poor problem solving; and poor implementation ability.

5.3 Summary

Diversity affects both group process and performance in positive and negative ways. The organisation must find ways to harness the benefits that can stream from informational diversity and/or reduce the negative consequences that stem from diminished group functioning through social categorisation.

6.0 THE THEORY OF DIVERSITY AND THE HRM BUSINESS CASE FOR PRODUCTIVE DIVERSITY

'The HRM Business Case for Diversity Management' purports that the negative consequences of social categorisation and similarity/attraction arise because of ineffective diversity management. The quantifiable HRM costs of ineffective diversity management manifest as job dissatisfaction, low levels of commitment, absenteeism and turnover. This causal link means that it is important to understand the complexity of the theoretical discussion given in this document. The theory highlights points of HRM intervention necessary to productively manage diversity in order to realise an organisation's bottom line.

1.0 INTRODUCTION

1.1 Diversity in Context

The increasingly diverse workforce reflects the changing demographics of the workforce. The workforce is aging due to the maturing of the baby boomers and the return of middle-aged women and formerly retired individuals to part-time and casual employment who seek to supplement their pensions and social security benefits. With respect to gender, the proportion of females in the workforce is increasing with women entering typically male-dominated professions and women choosing full-time career development over motherhood. In terms of ethnic diversity, ethnic minorities are accounting for increasing proportions of the workforce. In addition to the demographic diversity that age, sex and ethnic diversity brings to the workforce, these forms of diversity are also associated with a divergence in values, attitudes, styles of interaction, physical and cognitive abilities, and non-work commitments of members of the workforce.

Jackson (1992) highlights the new challenges facing organisations to effectively manage diversity, especially to enhance creative problem solving and innovation. Organisations are unable to simply adjust their existing management policies to deal with a diverse workforce. More radical changes are required. Rather than addressing only one aspect of the employment situation, predominantly the conditions surrounding the exchange of an individual's labour for compensation, diversity management identifies the need to address intra-group and inter-group interactions. These relationships have profound implications for performance, as they affect morale, satisfaction, and the quality of contribution to work impacting on performance, turnover and innovation. These inter-group relations are particularly important when tasks are complex and require interdependence. Jobs are being redesigned to increase task interdependence and decentralise formal control of the labour process in order to create self-managing and innovation centric workers (eg., teamwork). With these changes, the management of diversity has become a new and demanding challenge.

The literature on diversity presents two opposing views in regards to the effects of diversity on group process and group performance. One band of researches argues that diversity when managed effectively returns improvements to the organisation. Cox and Blake (1991) term this the "value in diversity hypothesis". In contrast another group of researches report strong findings to support the hypothesis that diversity supports negative consequences. The main difference between these two groups of researches is the theoretical grounding used to support their predictions. Essentially, researches taking a positive stance on diversity use information and decision-making theories, while researches that find evidence for pessimistic views on diversity rely on social categorisation and similarity/attraction theories. A critical review on these theories is presented in the following section.

Organisations are increasingly using work teams as functional tools to achieve their strategic objectives. As the workforce becomes increasingly diverse, these teams are also bound to become increasingly diverse. From an information and decision-making perspective, diverse teams may be advantageous for organisations especially for teams who perform decision-making and complex tasks (Cox 1993; Watson, Kumar *et al.* 1993). Teams with diverse members have the capacity to see problems from many different perspectives, which ideally lead to the sophisticated understanding of that problem and development of high quality decisions. However, these benefits may be compromised by the conflict that arises from dysfunctional group processes and miscommunication. Accordingly, in-group members or those of a majority tend to marginalise out-group members based on their different attributes, which inhibits the contribution of diverse opinion.

1.2 Defining Diversity

The Literature Review

The concept of diversity has, not surprisingly, been interpreted and presented in a number of ways: broadly, narrowly, simplistically, and complexly. Further, the conceptualisation of 'diversity' varies across a range of disciplines that consider diversity as part of their research agenda. As Jackson, May *et al.* (1995) argue, the term 'diversity' has been used as an umbrella term to indicate the presence of difference among members of some sort of group. It is also a term used extensively in the popular press to describe demographic differences and the changing workforce (Jackson *et al.*, 1995). There is a need to explain precisely what we mean by the term 'diversity' and how it will be used in our discussions.

Diversity discourse, and particularly organisational behaviour and organisational demography, has tended to emphasise a single characteristics of diversity such as gender or race and has been argued to be 'reductionist' in nature (Cheng, 1997 discussing the work of bell hooks). Cheng (1997) discusses how this strand of research tends to define an individual's diversity in terms of a singular characteristic – woman or man, black or white and so on, rather than black woman, or black lesbian woman. This concentration on a single characteristic then produces universalistic discourses – all men are violent, or all women are victims (Cheng, 1997:554).

To overcome the deficiencies of the singular characteristic and reductionist approaches, bell hooks proposes the adoption of a multivariate model of diversity (various works as discussed in Cheng, 1997)). This model relies on gender and race as the main variables (they are regarded as 'social stratums') and class, sexual identity and colonialism as secondary variables. These primary and secondary variables combine to produce a hierarchy of privilege in society (various works of bell hooks as discussed in Cheng, 1997). Therefore,

When gender and race are combined, Euro-Americans of both sexes forms superior strata. Higher income group members have more class privilege than lower income group members. Heterosexual gender performance privileges the actor to higher strata than overtly gay, lesbian, bisexual, and transgender sexual identities. Euro-American gays, lesbians, bisexuals, and transgender peoples have more status than minority groups ones. Native-born (in the United States) individuals have more status than non-native-born peoples, especially those that have been conquered militarily, politically, economically, or culturally. (Cheng 1997:556 based on the work of bell hooks).

While the bell hooks approach discussed by Cheng (1997) is informative and useful for the discussion of diversity in society, it appears deficient when we consider the dynamics of diversity in organisational settings when aspects such as expertise and tenure are important. In organisations, the conceptualisation of diversity needs to encompass a far broader range of characteristics and the following discussion considers some of these schema or typology.

Lawrence (1997, cited in Kilduff, Angelmar *et al.* 2000:21) argued that diversity can be conceptualised across at least four categories of variables: (1) observable demographic variables such as gender or race (the basis for demographic diversity research); (2) relational attributes such as tenure; (3) status variables such as marital status; and (4) personal unobservable attributes such as beliefs and perceptions. Whilst conceptually different, it is important to note (see for example, Jehn, Northcraft *et al.* 1999 or Williams and O'Reilly 1998) that in practice these categories can operate simultaneously or can be considered salient in different contexts. This schema provides a more appropriate framework for the consideration of the dynamics of diversity in organisations.

Jackson, Stone *et al.* (1993:53) use the term diversity in reference to situations where there is difference between 'actors of interest'. That is, 'actors' are not alike on some attributes. Whilst at first glance this appears to be all encompassing construct, the authors separate this definition into demographic (race,

gender, and age) and personal (status, expertise or style) attributes. The former explicit social categories and the latter 'subjectively construed characteristics' (Williams and O'Reilly 1998:81). This construction of diversity is far more suitable to the consideration of diversity in organisations, however it fails to consider other important factors such as values or beliefs.

Williams and O'Reilly (1998) in their comprehensive review of diversity research over forty years adopt a social psychological perspective, drawing on social categorisation theory to conceptualise diversity. This approach contends that people use visible attributes, for example, race or gender, to categorise people and that this is an attempt to simplify the world of experience (Allport 1954 cited in Williams and O'Reilly 1998:81). Thus, diversity results from 'any attribute that people use to tell themselves that another person is different' (Williams and O'Reilly 1998:81). Further, they contend that this identification of difference may be tempered by contextual or situational factors, which result in differences being more or less important to the task at hand.

Williams and O'Reilly (1998) identify two important features of their diversity definition. First, any social category or attribute that is under-represented within a group will most likely become the basis for categorisation. For example, being the only male in a female workgroup or being the sole African-American in a group of Caucasians. Second, there appears to be what is essentially, a hierarchy of categorisation. That is, particular demographical features such as race or gender are more visible than others, such as sexual orientation, and are therefore used more frequently as a basis for social categorisation. Therefore, Williams and O'Reilly (1998:82) argue that

[A]lthough a large number of possible attributes can be used to differentiate individuals, those that are most salient or visible in a given situation are expected to be the most important markers of diversity.

Williams and O'Reilly (1998) highlight the importance of the *type* of diversity for determining which differences are considered salient. If a type of diversity is considered relevant to the performance of the job then the stereotypes associated with that particular category of difference are usually invoked. Hence, whilst visible, or observable, differences are usually considered the most important determinants of social categorisation, invisible differences, such as experience or expertise, tend to be more relevant for workgroup performance. Therefore, according to the social categorisation view whatever characteristic is deemed important (by others) can form the basis for categorisation and the subsequent invoking of associated stereotypes, biases and prejudices (Williams and O'Reilly 1998). Another important contribution from the authors is the idea that the relative importance of a particular characteristic is dependent on the situation.

Jehn, Northcraft *et al.* (1999) explored the effect of three types of diversity - informational, social category and value diversity - in their study of diversity, conflict and workgroup performance. In line with Lawrence (1997, cited in Kilduff, Angelmar *et al.* 2000), Jehn *et al.* argue that whilst conceptually different these three types of diversity are not always practically distinct. However, each offers unique 'challenges and opportunities for workgroups' (1999:743) and hence potentially impacts on workgroup performance in a different fashion.

Informational diversity reflects the various knowledge bases and perspectives that members bring with them to the workgroup. This form of diversity is the result of group members' differential education, experience and expertise, all of which provide the foundation for ways of thinking, perspectives and knowledge. Thus, variance in education, experience and expertise will likely result in a diverse range of perspectives and opinions when workgroups are brought together, thus producing variance in group composition (Jehn *et al.* 1999).

Social categorisation theory is a popular basis for explaining or identifying diversity. This form of diversity is based on explicit, overt, or easily identifiable differences between people and reflects membership of a particular (although not always singular) social category. The most common forms of social category diversity are race, ethnicity and gender. The basic assertion of social categorisation theory is that individuals identify positively with similar others within the group and that this leads to favouritism, positive discrimination and segregation. In other words it leads to the creation of ingroups and outgroups. This then, it is argued, results in conflict between the factions created by social categorisation affiliation and often surfaces as interpersonal or relationship conflict with workgroups (Jehn *et al* 1999).

Value diversity results from different workgroup member opinions on what the 'group's real task, goal, target or mission should be' (Jehn *et al* 1999:745). For example then, those that value quality (effectiveness) will likely conflict with those group members that value quantity (efficiency) over the allocation of resources (Jehn *et al* 1999:745).

As stated earlier these forms of diversity are conceptually distinct but not necessarily separate in practice. Further, these forms of diversity may be interdependent. For example, diverse opinions on goals, targets or mission (value diversity) may reflect education, experience and expertise (informational diversity). It is also important to recognise that group members, in practice, operate within a construct of multiple diversities operating simultaneously: a female who is racially different to other group members operating in a male operated workgroup (social categorisation) who was educated in another country (informational diversity), and who espouses different values than other group members (value diversity). The complex nature of identity thus presents, as Jehn *et al* (1999) argue multiple challenges and opportunities in the management of workgroups.

The complex nature of diversity is also recognised by (Ho 1998:7) who states that 'not only is the social identity of an individual relational, but often individuals belong to numerous different social categories'. Thus, individuals identify with multiple self-images that function independently to produce a diversity of experience across different situations (Ho, 1998). How individuals identify themselves, or which 'self' they consider to be salient, is situation dependent. In other words, individuals consider some form of self-categorisation to be more or less important across different environmental settings. Consequently, we can view an individual's social identity as adaptive (Ho, 1998).

There are multitudes of diversity characteristics that can be used by individuals to either identify themselves or others. In a study of 32 organisations Nkomo (1995:187 cited in Hickman and Creighton-Zollar 1998:187) found the most comprehensive diversity definitions included the following variables:

Race, gender, physical appearance, nationality, cultural heritage, personal background, functional experience, position in the organisation, mental and physical challenges, family responsibilities, sexual orientation, military experience, educational background, style differences, economic status, thinking patterns, political backgrounds, city/state/region of residence, IQ level, smoking preference, weight, marital status, non-traditional job, religion, white collar, language, blue collar and height ...

However, defining diversity with reference to such a broad range of characteristics does not infer that the differences between individuals have equal significance or an equal impact in the workplace (Hickman and Creighton-Zollar 1998). Rather, 'differences among people in organizations are grounded within structures of power inequalities and unequal access to resources.' (Hickman and Creighton-Zollar 1998:187). Hickman and Creighton-Zollar (1998) concur with the argument that there is indeed, a hierarchy of characteristics of diversity. They argue, for instance, that gender differences are far more salient in relation to power and access in organisations than personal style, personal preference or blue or white-collar background (Hickman and Creighton-Zollar 1998:188). Hence, employing Nkomo's (1995) inclusive definition allows for

a 'multidimensional representation of differences among individuals' (Hickman and Creighton-Zollar 1998:188). It also increases the explanatory power of the impact of diversity on group processes and performance through the consideration of a multitude of potential contributory factors rather than the adoption of a simplistic demographic only schema.

Hickman and Creighton-Zollar (1998) argue that using a comprehensive diversity definition facilitates organisational members conceptualising diversity as a 'collective ... mixture of differences and similarities along a given dimension' (Roosevelt Thomas Jr, 1995:246 cited in Hickman and Creighton-Zollar 1998:188). In line with the proposition that all individuals possess differences on a number of 'diversity characteristics', Hickman and Creighton-Zollar (1998) make the argument that not only is there a mixture of differences between individuals, but that each individual possesses a mixture of difference.

At a Glance

Taking into account the previous discussion on the definition of diversity we argue that, in relation to organisational research, diversity captures differences and similarities between individuals and groups. This definition encompasses 'race, ethnicity, gender, culture, age, sexual orientation, religion, language, socio-economic status, education, family status, physical and mental ability.' (Nicholas and Semmartino 2000:13). We also recognise that there is a complex interplay that extends race, age and gender to other characteristics. These demographic variables are related to other important diversity characteristics such as values, attitudes, interaction styles, physical and cognitive abilities and non-work commitments. Further, the interaction between these diversity characteristics and others such as technical skills, intellectual ability, education level, organisational tenure and organisational position have an important impact on individual and organisational performance and productivity. This recognition of the complexities of 'diversity' as a concept 'forms part of the agenda for better understanding the complexity of productively managing diversity at work.' (Nicholas and Semmartino 2000:26)

1.3 Relational Demography- The Study of Diversity

Relational demography is 'the comparative demographic characteristics of relationships or group ... in a position to engage in regular interactions' (Tsui and O'Reilly 1989:403). Organisational demographers concentrate largely on visible differences in defining diversity – age, gender, race, ethnicity and also consider some job-related differences such as tenure and functional background (Williams and O'Reilly 1998). Relational demography is a *technique* rather than a theory (Ho 1998). That is, it is a technique for measuring and analysing difference and interaction or the dynamics of interaction.

Relational demography is informed by a number of theories: similarity and attraction, social identity theory, and self-categorisation. Relational demography considers the dynamics of individuals who are 'different' in work groups or relationships (pairs). For example, relational demographers have considered how those that are different are integrated, or not, into work groups, the effects of 'difference' on absenteeism, organisational commitment, turnover, and performance. In the study of relational demography it is argued that communication and attraction between members are improved where there are similarities in terms of demographic attributes, values and experiences (Ho 1998). The implication being that where differences exist with relationships or work groups there is potential for communication problems and effects on employee outcomes (commitment, performance and so on) and organisational outcomes (turnover, absenteeism, performance and so on).

Three major theoretical perspectives inform relational demography: similarity and attraction, social identity theory, and self-categorisation theory. These perspectives have three shared foundations (Ho 1998): (1) the

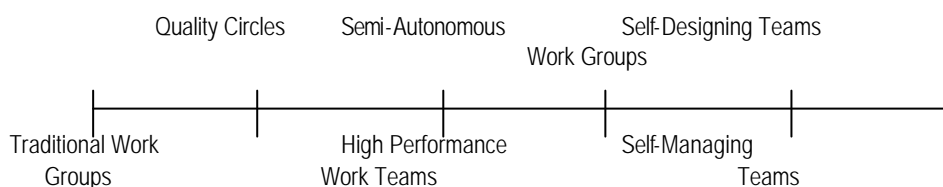
self is defined in relation to others; (2) categories are salient; and (3) members of a group seek to enhance their positive identity.

1.4 Defining Teams, Work Groups, and Group Performance

Teams & Work Groups

There are numerous terms used to describe groups of people who work together in organisations: work teams, groups, self-managing teams, and autonomous work groups are some of the most commonly used terms. A common means of distinguishing between these various terms is to consider the level of autonomy that different groups of workers have. For example, (Banker, Field *et al.* 1996) in their study on the effect of work teams on manufacturing performance present a typology of six different team types which vary from low autonomy to high autonomy teams (see Figure 1).

Figure 1: Team Autonomy Continuum



SOURCE: Banker *et al.*(1996:868)

According to (Banker, Field *et al.* 1996) *traditional work groups* assign no management responsibility or control to members with first line managers controlling planning, directing, monitoring and so on. In *quality circles* members have the responsibility for suggesting improvement ideas within boundaries set by management but no authority to make decisions. Facilitators provide training and group process advice to quality circles and there is no changes made in relation to hierarchical arrangements and the associated authority and control systems. *Semi-autonomous work groups* provide members with some autonomy over the work process and workers manage and execute major tasks and are provided with support for associated tasks such as quality control. *Self-managing teams* or autonomous work groups allow members to self-regulate work and involve interdependent tasks. The team in this situation has control over management and execution of the entire set of tasks required to produce a definable service or product, in contrast to semi-autonomous work groups where members only have control over the major tasks only. Thus, the scope of tasks that this group has control over is far broader than those in semi-autonomous groups. The final work group discussed by Banker *et al.*(1996) is *self-designing teams*. In addition to the characteristics of self-managing teams, this group has control over the design of their team, what tasks need to be undertaken and who will be members of the team.

Buchanan (1989) in investigations of worker control and performance discusses composite autonomous group working, which involves giving overall control of a task to a team. The team is collectively responsible for the task, there is no direct supervision and they are self-regulating. This would correspond to Banker *et al.*'s (1996) self-managing or self-designing team depending on the control that the team is given over recruitment and self-design.

In line with these conceptualisation's of teams, Cohen and Ledford (1994:13) define self-managing teams as 'groups of interdependent individuals that can self-regulate their behaviour on relatively whole tasks'. Key distinguishing characteristics of self-managing teams include face-to-face interaction; employees have tasks that are interrelated and they are responsible for making a product or service; and, group members have

discretion over decisions such as work methods, activity scheduling, and task assignment (Cohen and Ledford 1994). This description has similarities with the Banker *et al* (1996) self-managing team definition, however Cohen and Ledford (1994) state that their definition allows that self-managed teams may or may not be directly supervised – somewhat of an inconsistency if we are to think of them as ‘self-managing’.

Guzzo (1995) in discussing the intersection between teams and decision-making makes no distinction between teams and groups – the terms are used interchangeably. Teams and groups are “bounded social units with work to do in larger social system [an organisation]... A group or a team ... is said to be bounded when it has an identifiable membership (that is, members and non-members alike clearly know who is a member and who is not) and when it has an identifiable task or set of tasks to perform’ (Guzzo 1995:2-3). Guzzo and Salas (1995) examined teams with task-based interdependence among members such that a groups’ work required team members to interact via an exchange of information, resource sharing and coordination in order to complete the task at hand. Guzzo (1995:3) does however make a key point about our consideration of teams and groups:

Note, however, that interdependence is best understood as a matter of degree: all work groups on organisations have some interdependence, but some groups have more than others by virtue of technology, position in the organisation, choices about how to carry out the work, and other factors.

Williams and O’Reilly (1998:82) define work groups in line with Hackman (1987, cited in Williams and O’Reilly 1998) as

... composed of individuals who both see themselves and are seen by others as an interdependent social entity embedded in a larger organisation whose performance affects others, such as suppliers or customers. Task interdependence is a necessary condition.

While there are different conceptualisations of what teams are, the literature recognises that the key to the study of diversity and work groups is interdependence. Without task interdependence the ability of organisations to capitalise of the diversity of its workforce may be hampered since task interdependence acts as a moderator between negative group process effects created by diversity and positive group performance that result from diversity in group composition (see section 4).

Group Performance

According to Williams and O’Reilly (1998:82 citing Hackman 1987) group performance is defined using three criteria. Firstly, that group outputs meet or exceeds performance standards set by customers. Secondly, that social processes utilised in the performance of work enhance or maintain the capability of members to work together on subsequent teams tasks. Thirdly, those group members’ personal needs are satisfied rather than frustrated by the group experience.

According to Williams and O’Reilly (1998) these criteria consider not only the outputs produced by the group but also the personal experience of the group members and the subsequent ability of the group to perform in the future. Williams and O’Reilly (1998) argue that this definition of group performance is powerful as it recognises that group performance includes the expectation that groups will function over the long term not just as a one off. This throws doubt on one-off laboratory studies for assessing the impact of diversity on group processes and performance. One-off laboratory studies may inform information and decision-making theory, but do not provide insight into diversity and its effects in organisational settings, in particular in relation to the long-term effects of conflict and cohesion (Williams and O’Reilly, 1998).

Ancona and Caldwell (1992), citing Tsui, (1984) argue that team performance has multiple dimensions and that ratings of performance vary across constituents, that is, ratings may vary between group members and managers. This occurs because different constituents have different performance criteria and access to different data (Ancona and Caldwell 1992). Team members may be more interested in creating a productive environment, while managers may be more interested in output (Ancona and Caldwell 1992:324). Further, '[t]eam members have day-to-day information about team interaction and may use these data to evaluate performance. Managers are more distant and rely on more quantitative data such as budgets and schedules' (Ancona and Caldwell 1992:324). Therefore in evaluating team performance it is important to consider both member and managerial ratings of performance, as criteria and data access differs between the two parties.

When considering decision-making and its link to performance in groups it is important to take account of three levels of analysis to provide a sufficient understanding of team process (Guzzo 1995). The first level to consider is that of the *individual* within the group where emphasis is placed on 'the attributes, skills, and psychological and behavioural processes of team members' (Guzzo 1995:6). According to Guzzo (1995:6), individual conflict-management skills, expertise, racial or ethnic identity and other factors are all important in explaining group performance when we consider this level of analysis.

The second level to consider is that of the group itself. Analysis of decision-making and group performance at this level focuses on intra-group interaction and how members of the group exchange information or coordinate efforts to produce their end product (Guzzo 1995:6). The third level of analysis considers the context in which the team operates. Analysis at this level considers factors such as the effect of time pressure on group performance or the impact of organisational systems such as recruitment of reward systems on the group (Guzzo 1995: 6).

Following Guzzo (1995), there is room for analysis at each level. However, multilevel analysis has far greater explanatory power. Moreover, interpretation of research conducted at each level needs to consider each other level.

It is clear that there are a number of typologies of teams and groups. We recognise that work groups are all interdependent to some degree (Guzzo, 1995). However, our interest is centred on those that have task-based interdependence such that they rely on information exchange, resource sharing, interaction and coordination to complete their work. The link between diversity in group composition and task interdependence is important since we are interested in the potential for organisations to capture a 'diversity dividend'.

To explore diversity in groups, task interdependence and diversity dividends, theories in diversity research are next explained.

2.0 THEORIES IN DIVERSITY RESEARCH

2.1 Introduction

Williams and O'Reilly (1998) explore a number of theories to examine and explain the link between diversity and its impact on processes and performance in organisations. They identify three of the most commonly invoked theoretical perspectives to examine how these approaches produce differing, and sometimes contradictory, predictions and results. The three basic diversity theories are: social categorisation, the similarity/attraction approach, and the informational diversity and decision-making perspective.

2.2 Information and Decision-making Approach

Groups decision-making is a critical factor in determining team effectiveness in organisations (Guzzo, 1995). In a broad sense, decision-making can be

[R]egarded as a bundle of interconnected activities that include gathering, interpreting, and exchanging information; creating and identifying alternative courses of action; choosing among alternatives by integrating the often-differing perspectives and opinions of team members; and implementing a choice and monitoring its consequences (Guzzo, 1995:4).

It is important to recognise that team decision-making and individual decision-making processes are distinct (Guzzo, 1995). The distribution of information within teams is unequal, requiring a sharing and integration of information. This process however, may be frustrated by, for example, uncertainty, status differences, or the failure of members to appreciate the importance of information they or others hold. Important also for the study of decision-making in organisations is the fact that groups will often have ongoing relationships rather than one off interactions. Thus, 'decision activity is continuous and recurring' (Guzzo, 1995:5). Further, the decisions made by a group or team in an organisation have consequences not only for the team but also for others in the organisation.

Outside the Group Information

This approach to the study of diversity (which is also linked to the similarity and attraction, see section 2.4) examines how information and decision-making is affected by variance in group membership. It considers the process by which information is selected for discussion in group decision-making and the how information retrieval, knowledge acquisition and judgement occur through collective processes and social interaction (Wittenbaum and Stasser 1996). Wittenbaum and Stasser (1996:4) state that this social cognition in groups is intersubjective such that 'interacting individuals cognition are interdependent'. Researchers in the decision-making field generally view the concept of diversity as related to variation in expertise or experience (see Wittenbaum and Stasser 1996) rather than differences related to demography or social category. However, variation in demographic factors affects the social perception of expertise or competence through a process of social categorisation and stereotyping Williams and O'Reilly (1998).

If we take as given that people have a tendency towards communicating with others that are 'similar' to them on particular characteristics (see section 2.4), then 'individuals in diverse groups *may* have greater access to informational networks outside their work group' (Williams and O'Reilly, 1998: 87). This access to information in individuals' natural communication channels (ie informal networks of similar others) may lead to improved work group performance even if, as Williams and O'Reilly (1998) argue, that workgroup diversity may create interpersonal conflict problems and have negative effects on group processes.

Intra-Group Information

In decision-making groups, individuals often have access to different information sets. This occurs for various reasons. For instance, individuals have different roles and responsibilities which provide access to specific information and others may have different educational experiences and, generally, people are exposed to different life experiences, move in different social networks, and have access to different formal and informal information channels (Wittenbaum and Stasser, 1996). In consequence, in much the same way Jehn *et al* (1999) argue, this produces different bases of knowledge and means that in different situations people have access to very different sets of information. The fact that in work situations groups are required to make decisions and that this is reliant on communication and information exchange between individuals is where the potential for diversity-related issues arise. That is, because of the potentially negative social categorisation and similarity/attraction effects (see section 1.4) on group process functioning, information may not be shared.

Wittenbaum and Stasser (1996) discuss the consequences of distributed information systems, where access to information is not equally shared or uniform, on the pooling of information in decision-making groups. The lack of uniform information stems from the fact that at the onset of any discussion there is shared, partially shared and unshared information. Unshared information is available to only one member of the group, partially shared information is shared by more than one, but not all members of the group, and shared information is held by all members of the group. In a distributed information system it is important to understand how information is sampled for discussion. That is, which information is discussed and which information is not discussed and why (see also section 1.3).

Information and decision-making theories propose that group member diversity can positively effect group performance through increasing the skills, abilities, information and knowledge of the group through tapping into the pool of resources that diverse members bring to the work group. Where there is unshared or unique information then group discussion become an educational process (see also Knowledge Creating Firm). Therefore, if group members' exchange their unique information through contributing to the group information pool, then the group can make a collective decision using more information than could an individual alone. This is known as the assembly effect and is viewed as one of the (potential) major advantages of group over individual decision-making processes (Wittenbaum and Stasser, 1996).

Demography and Information

There is an assumption in the literature that demographically different individuals will have different values, knowledge, experiences and backgrounds which offers the opportunity to pool a broad range of information. For example, Jehn *et al* (1999) discuss the concept of informational diversity which reflects various knowledge bases that diverse members bring to a group and which grow out of different education, experience and expertise. The basic argument is then that through drawing together individuals who are dissimilar in relation to diversity characteristics unique information can be revealed to the group and superior decisions made. However, Wittenbaum and Stasser (1996) argue that one of the empirically identified problems with groups is that there is a tendency to omit valuable unshared information from discussion and concentrate on information that is already shared by all group members. Unshared information reduces the quality of decision-making. This may occur for a number of reasons. For example, groups may discuss shared information as a way of facilitating communication between all members or to create common ground, thus foregoing (in the short term at least) the potential benefits of the revelation of novel information. Alternatively, the processes associated with social categorisation and similarity/attraction (see sections 1.3 and 1.4) may cause this.

Informational diversity reflects the various knowledge bases and perspectives that members bring with them to the workgroup. This form of diversity is argued to be the result of group members' differential education,

experience and expertise, all of which provide the foundation for ways of thinking, perspectives and knowledge. Thus, variance in education, experience and expertise will likely result in a diverse range of challenge is how then to access this informational diversity and especially how to reveal partially shared and unshared information. Hence, diversity, from the information and decision-making perspective, is valuable if 'difference' provides *new* information.

Task Context and Information Sharing

However, the positive impact will be dependent on the task at hand. For instance, if the task is complex, for example innovation, complex problem solving or product designs (Williams and O'Reilly, 1998) it will benefit from the multiple perspectives those diverse members contribute to the information pool of the group. Jehn *et al* (1999) argue that the structural aspects of the task moderate the effects of workplace diversity on performance. Wittenbaum and Stasser (1996) discuss a study undertaken by Stasser and Stewart (1992) that proposed that groups that were engaged in problem-solving tasks were more likely to engage in a comprehensive information search, providing the opportunity for unique information held by diverse group members to surface. This form of task is known, as an *intellective task* as it consists of a problem to be solved for which there is a correct answer (Wittenbaum & Stasser, 1996). In contrast, where groups perceive that a *judgemental task*, requiring evaluative judgements and for which answers can not be considered correct or incorrect, the study found that the group was more likely to consider only enough information to reach a consensus. The implication being that groups will satisfice and there will not be adequate time for unique or unshared information to emerge in discussions. This means then, that a group's perception or construal of the task is important. When tasks are constructed such that groups believe that they are intellective, there is evidence to suggest that this will provide an environment where unshared or unique information can be presented to the group as they undertake a far more comprehensive information search and pooling process (Wittenbaum and Stasser, 1996).

Group Composition and Information Sharing

An interesting strand of the information and decision-making perspective examines status, expert roles and leadership and how these factors can play a role in determining what information is shared by members in groups and how others perceive that information (Wittenbaum and Stasser, 1996). Thus, social perception plays a key role in group information sharing and decision-making processes. Members who are perceived by others to be highly competent because of their social and demographic characteristics, their occupational role, or their unique knowledge are predicted to have the necessary self and group confidence to emphasize unshared information in group discussions. The implication being that if a group member is *perceived* to be of low competency they may be assigned less importance in the group or, indeed have their information dismissed in a way that would not occur with those perceived to be of high competency (Wittenbaum and Stasser, 1996).

Wittenbaum and Stasser (1996) discuss how members who are perceived to be of lower competence (because of knowledge, occupation or social/demographic characteristics) may be able to reveal unshared information as an impression management tool. That is, "low competence" group members can use their unique information to try and alter other members' perceptions of their competence. Thus, '[a] member who communicates unique information may be perceived as more competent, as better prepared for the task, and as having access to valuable sources of information' (Wittenbaum and Stasser, 1996:26).

Group Performance

These information and decision-making theories predict a positive effect on group performance in complex (or intellective) tasks as diverse knowledge and information is expected to result in innovations, superior solution and better product design. This view implies that when the task is simple then the negative group

process reduce group performance. Jehn *et al* (1999) argue that the evidence suggests that simple tasks can rely on standard operating procedures – new information is not needed to complete the task. Rather, if debate over simple tasks occurs then there is potential for effects on group performance as the negative group process effects predicted by similarity/attraction and social categorisation theory surface as intra-group conflict. Wittenbaum and Stasser (1996) argue that evidence (see Stasser and Stewart, 1992) suggests that poorer decisions are made when groups perceived that the task at hand was judgmental because they failed to pool information.

This provides a possible explanation for the contradictory results that have been found when the effects of diversity on group performance are examined. Jehn *et al* 1999 for example discusses how task complexity potentially moderates information and decision-making processes to produce positive group performance. As Williams and O'Reilly (1998) argue, most information and decision-making research has focussed on functional and background diversity rather than demographic diversity, and the few studies that have considered demographic diversity have been laboratory studies rather than studies of on-going and established work groups.

Wittenbaum and Stasser (1996) concur, arguing that there has been a lack of research on intact groups where members have worked together over time and who work on tasks that are of personal relevance and importance (unlike those studies carried out in the laboratories). They suggest that there are several important dynamics that will not emerge in laboratory studies which are of importance when understanding the functioning of intact groups.

Firstly, because intact groups have a history of working together they have an understanding of each others areas of expertise, potentially increasing the meta-knowledge base of the group. In addition, the expectation that they will continue to work together in the future may influence how much, and what sorts of information members reveal. Second, organisational teams are usually comprised of members whose expertise is made explicit by virtue of their position title or role, thus also potentially facilitating members exposing unique or hidden knowledge more readily. Third, because intact groups are ongoing, turnover occurs. Established group norms mean that newcomers will perceive the exchange of unique and hidden information as the norm and contribute accordingly. New members lack of experience in the group will lead them to demonstrate similar patterns of information sharing as 'oldtimers'. Fourth, natural leaders may emerge in intact organisational groups and these individuals may be influential in facilitating members sharing of unique information. Lastly, the broader societal context impacts on intact groups in a ways that are absent in laboratory groups. Thus, members participate in activities that are external to the organisation but which may, nonetheless, influence group performance. Group and organisational outsiders who are stakeholders in the groups' decisions can in this situation, influence the amount and type of information discussed.

Summary

Information and decision-making perspectives propose that the positive effects on performance can occur despite the negative impact on group process caused by similarity/attraction and social categorisation effects. The (potential) negative group process effects are predicted by similarity and attraction theory which proposes that *within* groups individuals are attracted to similar others and that this can restrict the amount of information shared between group members through an establishment of informal within group communication channels. As Williams and O'Reilly (1998) argue, groups can fail to capture the pool of information held by members because those that are similar may isolate members who are 'different'. Further, according to information and decision-making theory, groups tend to concentrate on common or shared knowledge (see Wittenbaum and Stasser, 1996) rather than unique or unshared information, indicating that those that are similar discuss information they already have and those that are different may not volunteer unique (or unshared) information. The information and decision-making approaches argue, however, that these negative process effects can be overcome and that positive group performance

outcomes can be extracted from diverse work groups. These potential problems and potential benefits of group performance do not happen naturally. They require planning, providing an important role for policies, practices, and training by HR managers.

2.3 Social Categorisation Theory

Much of the research into the role of diversity in organisational performance utilises social categorisation theory (Williams and O'Reilly 1998). Categorisation involves the classification of individuals into groups based on characteristics such as age, race, tenure, status, or religion. Such categorisation becomes social, when a large number of individuals draw the same judgments of individuals based on the same characteristics. Tajfel (1981) argues that in order to understand inter-group behaviour one must take an 'interactionist' perspective and study the effects of the reciprocal relationship between the individual and the group and its affects on interpersonal and inter-group behaviour. This task also involves understanding the cognitive as well as social aspects of individual and group behaviour rather than only studying extrinsic or observable behaviour. Social categorisation theory focuses on identifying the social cognitive processes that are responsible for group formation and the acquisition of group identification, which shapes inter-and intra-group relations, attitudes and conflict (Turner 1982 p.3; Hogg and Terry 2000). The social processes are self-categorisation and social identity. Both are motivated by a desire to maintain a high self-esteem and a desire to reduce the uncertainty that arises from dealing with unfamiliar others, whose opinions and attitudes potentially challenge one's self-concept and understanding of their place within their social environment (Tajfel and Turner 1979; Tajfel 1981; Tajfel and Turner 1986; Hogg and Terry 2000).

Self- to Social-Identity

According to social categorisation, individuals first engage in self-categorisation based on a process of social comparison and then categorise groups of individuals as representing a particular social identity (Turner, Hogg *et al.* 1987). Self-categorisation theory can be conceptualised as the relationship between self-concept and group behaviour (Hogg and Terry 2000). It explains the underlying social cognitive processes that produce social categorisation effects (Hogg and McGarty 1990; Hogg and Abrams 1988). The process of classifying oneself and others into social categories using salient attributes permits an individual to define themselves in terms of a social identity that correlates to a particular social group (Turner 1982). Accordingly, by assigning oneself to a particular group one increases the perceived similarity between their own social identity and the identity of the group, and increases the perceived differences between that group and other relevant groups. The individual no longer sees himself or herself as a unique individual but as representative members of the group and that their behaviour embodies the group's prototype behaviour or social identity.

This movement from individual to group identity is explained in Tajfel's (1981) 'interpersonal-inter-group' continuum of social interaction. Turner (1982) uses this continuum to argue that individuals evolve from behaving in a 'purely interpersonal' to a 'purely group' manner. This transformation of self-concept or individual identity to social or group identity is the process underlying group behaviour. It combines self-categorisation and social identity in line with the prototype of the group that that individual perceives as an ideal framework for behaving. Tajfel (1981) first introduced the concept of social identity in his seminal 1972 article on social categorisation. Social identity was defined as "the individual's knowledge that he belongs to certain social groups together with some emotional and value significance to him of this group membership" (Tajfel, 1972:292, cited in Tajfel, 1981). Tajfel was interested in studying the concept that the self is defined within the context of inter-group social comparisons that seek to confirm in-group and out-group. Turner (1982) explored the concept of social identity as part of the self-concept in greater detail arguing that individuals form their perceptions of themselves and others based on abstract social categories and comparisons, which they internalise as defining their self-identity. Social categories come to be salient as a

basis for defining people when people are systematically included within some, and excluded from other related categories. The self-concept becomes social because an individual does not exist in isolation and through interaction and comparison with others, individuals come to define themselves in relation to others, and/or socially. Categorising and defining others and oneself do not occur exclusively, but occur as part of a reciprocal relationship (Tajfel 1981; Tajfel and Turner 1986).

In-group and Out-group

Commins and Lockwood (1979, cited in Hogg & Abrams, 1988) argue that a social group provides its members with positive social identity by comparing itself and distinguishing itself from other relevant groups based on characteristics that have positive implications for their self-esteem. Tajfel (1959, cited in Tajfel, 1981) made early references to the motivation of self-esteem in his *accentuation principal*, which purported that individuals will act to preserve positively valued differentiation that define one's self-concept. Tajfel and Turner (1970, cited in Hogg & McGarty, 1990) later made explicit reference to self-esteem as a motivator for differentiation between groups in their formalisation of social-categorisation theory. It is assumed from social categorisation theory that individuals strive to maintain or enhance their self-esteem, as they strive for a positive self-concept (Hogg and McGarty 1990). Based on this, individuals define themselves as representative of a particular group and they are likely to evaluate that group positively (Turner 1982; Turner and Hogg 1987). Individuals develop positive distinctiveness by behaving in ways that favour the in-group. They maximise intra-group differences in order to perceive others as less attractive than themselves. Thus, the desire for positive self-concept leads to the use of certain dimensions along which individuals compare themselves with others (Tajfel 1981; Hogg and Abrams 1988).

It is the process of self-categorisation that supports a social identity and produces distinctions between in-groups and out-groups. The members of an in-group act to preserve positively valued (that justify the) differences of that group from other social groups. They tend to evaluate that group positively and act in ways that favour in-group members and maximise intra-group distinctions in order to perceive *others* as less attractive.

Otherness is typically perceived as a deficiency. Studies show that out-group members, or those other to the in-group, are perceived as less trustworthy, honest, and cooperative than are in-group members (Kramer 1991). The behaviour of in-group members to the *other* is typically based on assumptions and stereotypes, is less friendly and ultimately less cooperative. Stereotyping is a result of social categorisation that serves to reduce the uncertainty in predicting behaviours, beliefs, and attitudes of strangers (Tsui and Farh 1997). A 'stereotype is "an exaggerated belief associated with a category [held by large numbers of people]. Its function is to "justify (rationalise) our conduct in relation to that category" (Allport, 1954:191 as cited in Tajfel 1981:147). Stereotypes are a product of social categorisation that act to preserve or defend ones system of values or self-esteem, as they aid in the creation and maintenance of in-group/out-group boundaries. A stereotype thus signals to others what social group an individual belongs and this helps to predict how that individual will act in certain situations and thus underpin cognitive biases.

Social Categorisation and Group Process and Group Performance

From these aspects of social categorisation theory, the creation of stereotypes, in-groups, out-groups and other products of group activity based on diversity can be understood. Diversity leads to the differentiation between social groups that aims to achieve or preserve ones own special characteristics and identity (Tajfel 1981). This process can have positive behavioural implications for in-group members and negative behavioural implications for out-group members, while the interaction of members from diverse groups may result in poor organisational performance. Studies have shown that stereotyping in diverse groups lead to decreased satisfaction with the job and with the work group, increased absenteeism and turnover, lowered levels of intra-group cohesiveness and communication effectiveness, higher levels of conflict, greater

factionalism and decreased cooperation with managerial goals (Milliken and Martins 1996). From an 80-study research synthesis by Williams & O'Reilly (1998), the most cited effects of social categorisation on group process were that diversity typically resulted in increased conflict, communication problems and factionalism. Empirical studies tend to conclude that turnover is higher for groups composed of members with greater diversity (eg., O'Reilly, Caldwell *et al.* 1989; Wagner, Pfeffer *et al.* 1984). One reasonable explanation is that group heterogeneity influences group dynamics and that in turn shapes the turnover dispositions of all members, not only minority members of the group.

Summary

The main divide between social categorisation theory and similarity/attraction theory is encompassed by Turner (1982:16) who states that "the first question determining group belonging is not 'Do I like these other individuals?' but 'Who am I?'. In social categorisation, the emphasis is on defining one's own social identity, where categorisation is more important than similarity in determining group formation. The essence of social categorisation theory is to explain how members of a group define themselves rather than how they feel about each other. The necessary and sufficient condition for group formation is the awareness of belonging to a common category, whereby group belonging and formation are outcomes of self-categorisation. On the other hand, similarity/attraction theories claim that individuals choose to interact with others based on how they feel about the other person and the choice to interact is based on whether they perceive there to be any interpersonal similarities.

2.4 Similarity/Attraction Paradigm

Interpersonal attraction lies at the core of a wide range of conceptualisations of social groups and their formation. Berscheid and Walster (1969) propose that similarity on attributes and personalities, ranging from attitudes and values to demographic differences, engender interpersonal liking and attraction. Similarity/attraction theory argues that the degree of group cohesiveness is dependent upon interpersonal similarity, attraction, and liking, which explains the role of diversity in group process and group performance. This helps to explain why some studies examining diversity found that members of homogenous groups interact more cohesively than do members of heterogeneous groups. The cognitive process that underpins the cohesiveness that stems from similarity is that similarity acts to maintain one's self-esteem, facilitates self-categorisation, and the social construction of in-groups and out-groups. That is, people who share experiences and attitudes are more likely to like each other and cooperate with each other because they will understand each other better, and because liking someone who is similar self-reinforces one's own qualities (Pfeffer 1985).

Similarity-attraction as Demographics

Similarity-attraction theories are based on the premise that people need social validation for their beliefs to support their self-esteem and the way that they make sense of inter- and intra- group interaction (Brown 1984; Hogg and Abrams 1988; Hogg and McGarty 1990). Turner (1987) states that when a social group is perceived to comprise similar attributes to an individual's self-concept, that individual will identify strongly with and be attracted to that group. Similarity/attraction can be conceptualised as the most important element in group formation and group belongingness, since interpersonal liking underpins intra-group cohesiveness and "becomes the cement binding together group members" (Hogg and Abrams 1988:95). Essentially, similarity is attractive because within similarity there is positive reinforcement of one's attitudes and beliefs, which enhances one's self-esteem (Hogg and Abrams 1988; Hogg and McGarty 1990). On the other hand, dissimilarity can lead to misinterpretation or message distortion, which may challenge one's positive self-concept and potentially result in interpersonal dislike and conflict. There is clear overlap

between social categorisation theory and similarity/attraction theory. Perceived social group identification acts as a shortcut to identifying with people who share common experiences or values.

Jackson (1992) proposed that the demographic background of group members shaped attitudes, values and beliefs, which vary systematically with several key demographic variables. The most important demographic variables cited are age cohorts (e.g., individuals experiencing economic depressions vs. individuals experiencing economic booms) and age affecting attitudes, values and personality, sex affecting cognitive functioning and interpersonal interaction patterns, and education (e.g., formal education and curriculum choices) shaping disposition towards change, innovation and cognitive styles. In summary, Jackson argued that demographic characteristics of group members shape group cohesiveness.

According to Festinger's (1954, cited in Tajfel, 1981) social comparison theory, since individuals have an upward directional drive they are motivated to compare themselves with others who are similar to or marginally better than them on relevant criteria. Individuals evaluate their opinions and abilities that they use to self-categorise by comparison with the opinions and abilities of others similar to themselves (Tajfel 1981; Tajfel and Turner 1985; Turner, Hogg *et al.* 1987). Social comparison between the self and relevant groups maximises inter-group distinctiveness and intra-group similarities. The greater the perceived similarity between the self and a particular in-group, the more favourably will an individual evaluate the characteristics of the in-group (Turner, Hogg *et al.* 1987; Hogg and Abrams 1988; Hogg and McGarty 1990). (Brown 1984) examined the role of attitudinal and status similarity on both the attractive or convergent properties of inter-group relations and their role in creating inter-group distinctions. It is concluded from this study that similarities not only in status and attitude but any dimension that is salient to members of a group leads to attraction and increases inter-group distinctiveness.

Summary

Attitudinal similarity between in-group members positively affects interpersonal relations and enhance intra-group communication, cohesiveness, and integration and increases the desire to sustain group affiliation, as similar individuals are likely to share common life experiences and values, which may facilitate interaction, make it less awkward, and even more desirable (Bersheid & Walster, 1969). Pfeffer (1985:69) argues that "demographic factors are important in understanding and managing organisations because similarity is one of the most important bases of interpersonal interaction... [D]emographic features such as age, race, and sex both help to determine similarity and also signal that those who share these features are more likely to be similar".

Similarity/attraction theory predicts that similarity preference or homophily bias support attraction, effective communication, cohesiveness, and liking (Ibarra 1992; Ibarra 1993; Ibarra 1997). This means that diversity's effect on group performance is mediated by its affect on group processes. Pfeffer's (1983) original paper on organisational demography found that the degree of similarity in demographic factors that was perceived to exist between workers by workers related directly to group process, conflict, turnover, and performance and productivity. To explore the effects of diversity on group performance, the effects of similarity, attraction and social categorisation on group processes are next examined.

3.0 EFFECTS OF DIVERSITY ON GROUP PROCESSES

3.1 Introduction

Research into the effects of diversity on group processes and performance provide conflicting results. This can be explained by the different theoretical approaches that various authors apply to their research (see sections 2.2-2.4 for review). In their review of diversity literature, Williams and O'Reilly (1998) conclude that whilst information and decision-making theories predict positive effects from diversity in group composition, social categorisation theory and similarity and attraction theories predict negative effects on group processes and group performance. Similarly, Guzzo's (Guzzo and Dickson 1996) review of the research conducted in organisational settings with diverse groups or teams to determine their performance effectiveness found that there was a two-pronged effect of diversity on group process and performance. It was reported that heterogeneity is positively related to the creativity and the decision-making effectiveness of teams in organisations (eg., Magjuka & Baldwin, 1991; Jackson, May *et al.* 1995) while homogeneity is positively related to group cohesiveness, process effectiveness, and retention (eg., Goodman and Leyden 199; Campion, Medsker *et al.* 1993).

Social categorisation and similarity-attraction approaches predict positive effects from homogeneity rather than heterogeneity. From a social categorisation perspective, homogeneity can be beneficial for group process as it confirms an individual's self-identity, which acts to boost one's self-esteem. Homogeneity tends to minimise conflict, communication problems and factionalism. From the similarity/attraction paradigm, homogeneity signals interpersonal similarities that promote positive feelings toward one another. This effect encourages liking, effective communication and cohesiveness. Heterogeneity can be blamed for poor group performance, as there is a lack of attraction to the group, reduced commitment, an inability to cater to the needs of group members, a lack of social integration, which may result in poor problem solving and implementation abilities. These negative consequences of diversity also inhibit the firm from extracting possible benefits that stem from diversity. For example, creating social divides, or in-groups and out-groups, in diverse workgroups may restrict the flow of information that is valuable for problem solving and decision-making. Specifically, the interpersonal conflict resulting from social categorisation and similarity/attraction may diminish group performance via disruption of group processes.

According to the information and decision-making perspective, it is the ability of groups that are diverse in their composition to reveal unique information that is crucial to the success of group performance. While the source of intra-group conflict, diversity can also be advantageous for a firm that engages in creative, problem-solving activities. Homogeneity of group composition will result in restricted information pools and inferior decisions or solutions. Conflict in the theoretical predictions arises from the different assumption in these three major approaches in analysing diversity in organisational settings, which in turn explains inconsistent empirical research results.

3.2 Information and Decision-Making Effects on Group Processes

The information and decision approach predicts a number of diversity effects on group processes. First, it predicts that composition diversity will increase the cognitive processing demands of work groups. Second, the approach predicts that diversity will improve analysis in the group, leading to more careful analysis of issues. Third, information and decision-making perspectives predict that diversity will lead to better use of information in the work group. These predictions stem from the idea that diversity in work group composition potentially increases the type and pool of information available for solving problems, leading to higher quality, correct, or more creative solutions. The main claim emphasises the positive effects of increased skills and information sets and the subsequent enhanced capability for problem solving (Williams and O'Reilly, 1998).

Review of Empirical Literature- Curvilinear Effects of Problem-Solving and Cohesion

Although not empirically investigated, Williams and O'Reilly (1998) argue that it is reasonable that increased information stemming from diversity in work group composition has a curvilinear effect. They argued that some initial diversity has more value than subsequent increments, claiming a diminishing value to added information stemming from diversity.

In their review of diversity literature, Williams and O'Reilly (1998) found that information and decision-making theories predict positive effects from diversity in group composition while social categorisation theory and similarity and attraction perspectives predict negative effects on group processes and group performance. In fact, social categorisation and similarity-attraction approaches predict positive effects from homogeneity rather than heterogeneity. This is due to the potential negative effects that group composition diversity has on group processes, which lead to negative effects on group performance. However, these effects can potentially be moderated or offset by other factors, such as the creation of common goals and identity.

Social categorisation and similarity-attraction approaches claim that the conflict, communication problems, factionalism, lack of attraction and lack of self-validation created by diversity will result in a lack of information sharing and an inability for group members to exchange useful and important information relevant to the task at hand. This means that the interpersonal effects resulting from social categorisation and similarity and attraction effects may diminish group performance via disruption in group processes.

Some studies have shown this to be the case. For example, Stasser and Titus (1985 cited in Gruenfeld, Mannix *et al.* 1996) demonstrated that where different facts are known, heterogenous groups can be ineffective at integrating unique knowledge due to information sampling problems. And, as discussed earlier, these information-sampling issues can arise because of social categorisation and similarity/attraction effects.

According to the information and decision-making perspective it is the ability of groups that are diverse in their composition to reveal unique information that is crucial to the success of group performance. From this view, homogeneity in group composition will result in restricted information pools and hence inferior decisions or solutions. Tension between the major approaches used to analyse diversity in organisational settings reveal complexity in diversity management, yet *also* provides a powerful explanation for inconsistent empirical results.

When the three approaches are combined in an integrated model as Williams and O'Reilly (1998) have done,

the overall effect of diversity is likely to have a u-shaped form with some increments of diversity having large positive increases in group problem-solving capability with comparatively small negative effects on group functioning. Large amounts of diversity in groups may offer little in the way of added value from unique information and make group cohesion and functioning difficult.

Risk Attitudes in Heterogeneous Groups

The empirical literature suggests that these curvilinear effects may be moderated by contextual factors such as organisational culture or informational influence, which act to either enhance or attenuate the processes of social categorisation and decision-making (Williams and O'Reilly, 1998:90). The combination of these effects requires a careful analysis of the results of diversity research. We need to recognise that whilst research demonstrating the negative effects of diversity is valid, it may be ignoring the important positive

effects on performance that diversity in group composition can have. It also requires an acknowledgment of the important role that human resource strategies can have in capitalising on the positive effects of diversity in work groups and its role in attenuating the negative interpersonal effects that a shift from homogeneity can create.

One reason why heterogeneous groups may produce higher quality outcomes is that heterogeneous groups are less risk-averse than homogenous groups. Value derived from the interaction of heterogeneous groups must recognise the need to moderate the high risk involved in diverse individuals interacting. If organisations are to intentionally increase the diversity of their workforce then they must allocate more resources to socialising new members and rewarding a positive disposition towards interaction with diverse individuals. The key challenge is the ability to harness the benefits of heterogeneity while facilitating social cohesion.

Constructive Conflict

Kirchmeyer and Cohen (1992) examined the effects of managing conflict in culturally diverse groups. The basic idea of the constructive-conflict approach is that conflict, when managed effectively, is central to harnessing the potential group decision-making capacity. That is, it is the effective management of intra-group diversity that enhances decision outcomes; hence the term constructive-conflict. Leveraging from the information and decision-making approach, diversity and the conflict that arises from the interaction of diverse individuals are essential should the firm wish to utilise its stock of information that resides in its human resources. Kirchmeyer and Cohen (1992) sought to test whether constructive-conflict would enhance the contributions and reactions of ethnic minorities as a means to improving the quality of decision-making.

Kirchmeyer and Cohen (1992) conducted a study that involved 180 undergraduate business students who were divided into groups of four according to sex and ethnic status. The results of the study found that ethnic minorities contributed considerably less to decisions than non-minorities did. However, with increasing use of constructive conflict, groups made more valid and more important assumptions, and the performance and reactions of minorities improved at rates either equal to or greater than non-minorities. Constructive conflict enhanced commitment to the group and to the decision. These results are in stark contrast to earlier findings which have found that members in high-conflict diverse groups were less committed to the group (Schweiger, Sanberg *et al.* 1986) and the final decision (Schweiger, Sanberg *et al.* 1989) than low-conflict groups. This disconnect may be due to the use of different methodologies. In Kirchmeyer and Cohen (1992) study, groups selected their own decision-making approaches and the conflict measure was based on self-reporting, whereas in previous studies the decision-making approaches were built into the experiment and the conflict measure was a condition-type. This methodology difference and the results that they support indicate that groups that are free to develop their own approaches to constructive conflict are more comfortable with conflict.

Cognitive Process Diversity and Conflict

Shaw and Barrett-Power (1998) consider the affect of cognitive paradigm dissimilarity on group process and performance. Cognitive process dissimilarity refers to differences in unobservable differences, such as personality and cultural beliefs. These attributes are explained to form the building blocks upon which observable attributes become sources of visible difference between individuals. The authors analyse the role of cognitive diversity on various stages of the group formation, including forming, storming, norming and performing. They argue that the cognitive effort required to adapt to dissimilarity effects this four-stage process. If the cost of overcoming stereotypes and biases is greater than the benefit or reward expected from the cognitive effort required, there will be less interaction with dissimilar individuals and group cohesion

will be more difficult to achieve. Further, although dissimilarity in unobservable characteristics may not surface during the forming stage, they may become obvious during the storming stage. This may inhibit norm creation and the attainment of desirable performance outcomes when the cost of cognitive effort to manage dissimilarity outweighs its return.

Jehn, Northcraft and Neale (1999) investigate the influence of three types of diversity on workgroup outcomes and identify three types of conflict as playing mediating roles. The three types of diversity are social category diversity, value diversity, and informational diversity, while the three types of conflict are task conflict, process conflict and relationship conflict. The authors present nine hypothesis, the first being that information diversity increases task and process conflict, as members rely on their knowledge bases and perspectives that vary as they have different educational backgrounds, training, and work experience, which in turn leads to differing opinions on task and process decisions. Social category diversity increases relationship conflict in workgroups, since individuals drive to maintain their self-esteem by maintaining social categories. Relationship conflict in turn will lead to task and process conflict. Similarly value diversity increases task, process and relational conflict, as dissimilarity in group members' goals and values inhibits interpersonal relations from being affable.

Kilduff, Angelmar, and Mehra (2000) explore how demographic diversity affects cognitive diversity, the effects of team cognitive diversity on performance, and whether there is a reciprocal effect of firm performance on team cognitive diversity. Relying on Weik's (1979, 1995) sense making perspective to support cognitive diversity, they explain that multiple perspectives in teams are critical for dealing with complex environments. The variety of skills within the firm must match the variety of demands outside the firm. Interpretive ambiguity supports team variety needed to sense and regulate the complexity of dealing with the environment. Interpretive ambiguity allows for constructive conflict that enables team members to perceive the same environment in different, but complementary, ways. Additionally, team members may engage in heedful interrelating when they perceive the collective interpretation of task definition and process procedures as representative of the "right way".

Using data from 35 simulated firms involving 159 managers attending executive education programs, Kilduff *et al.* (2000) found that members of high-performing teams typically maintained multiple perspectives in the team's early life cycle, but as the team matured there was greater convergence. These high-performing teams exhibited both early interpretive ambiguity and late heedful interrelating. It was found that cognitive diversity was affected by and effected organisational performance. Surprisingly, there was no evidence of any relationship between demographic diversity and cognitive diversity.

Rulke and Galaskiewicz (2000) explored the relationship between social network structures, the distribution of knowledge and group performance. From a study of 39 MBA students in two management simulation games, they concluded that in general groups that had broadly distributed knowledge outperformed groups that had knowledge concentrated in different members. That is, groups made up of members who preserved general knowledge outperformed groups that consisted of members with specialised or both specialised and general knowledge. However, this advantage disappeared when groups of specialists or mixed groups operated in decentralised structures. The logic proposed by the authors was that specialists who do not have cross discipline understanding find it difficult to communicate and understand one another especially when there is less task interdependency the network of ties are more centralised and the flow of information is minimal. When network structures are centralised, those groups with members with generalist knowledge are expected to perform better since they are assumed to share common interpretations, which enable them to pool and share information, or to introduce new knowledge into decision-making. In turn, communication and decision-making is more effective, which facilitates and enhances team performance.

Gruenfeld, Mannix, Williams, and Neale (1996) investigated the effects of group composition on decision-making by examining member familiarity and information distribution. Their study of 213 executive MBA

students split into three types of groups – familiar, mixed, and strangers – provided insight into group processes. The authors found that, compared to stranger groups, familiar groups were significantly more comfortable working together, they were more comfortable expressing disagreement over the problem, and they rated themselves higher in terms of effectiveness. The 'familiar' group also scored higher than the 'mixed' groups on these criteria, however the differences were rarely significant (Gruenfeld *et al*, 1996). This finding is not surprising, given the predictions from social categorisation and similarity/attraction perspectives; they also emerged in a short-term experiment.

In terms of the decision process, the Gruenfeld *et al* study (1996) identified clear patterns of aggregation (where majority wins) and pooling (where individuals shared and pooled information, thus integrating individual knowledge). The authors found that stranger and mixed groups were more likely to use an aggregation strategy in solving the problem than groups of familiar people. The study found that familiar groups were more likely to engage in 'accurate pooling' where information was pooled and integrated and the correct answer reached. Group composition did not predict 'inaccurate pooling', however the impact of information distribution on inaccurate pooling varied according to group composition. Familiar and mixed groups were more likely to pool inaccurately in situations of full information, and stranger groups more likely to pool inaccurately in partial information situations.

From their investigation, Gruenfeld *et al* (1996) conclude that familiarity can act as a buffer against dysfunctional normative effects. This implies that group familiarity, which the authors assume reflects social acceptance, makes groups less prone towards conformity and more likely to sample information more widely. The greater the familiarity, the more comfortable were members to express disagreement, the more open they were to learning from each other, the more they enjoyed working together, and the higher the satisfaction ratings with outcomes of the decision-making process. All this indicates that familiarity may be a moderated.

Both heterogeneous and homogenous groups have benefits in performance on teams, including problem solving and decision-making. Both groups need HRM intervention to manage conflict and promote high quality information sharing, problem solving and innovative decision-making.

3.3 Social Categorisation Effects on Group Processes

A preponderance of literature on heterogeneity uses social categorisation theory to hypothesise and empirically support the detrimental effects of diversity on group process. In line with social categorisation these researchers predict that the presence of diverse *others* will lead to the social categorisation of those different individuals into in-groups and out-groups in order to preserve ones self-identity and to maintain ones self-esteem. Accordingly, behaviour will be shaped by assumptions and cognitive biases leading to process losses (Kramer 1991). According to William's and O'Reilly's (1998) comprehensive literature review on the social categorisation effects of diversity on group processes, diversity will promote conflict, communication problems, and factionalism.

Conflict

At a glance, the literature shows clearly that diversity leads to conflict. On further inspection, what emerges as important is the different types of conflict those different types of diversity foster. Delineation is usually made between "positive" conflict and "negative" conflict, whereby some types of conflict can benefit group process over time, while others will inhibit interpersonal relations. By human nature, negative conflict will

almost always naturally arise in diverse groups, which mediates positive conflict and must be managed to promote improved problem solving ability and creativity. The issue becomes how to develop strategies to manage both types of conflict such that they positively influence each other.

Among others, O'Reilly, Williams *et al.* (1997) and Pelled (1996) found strong associations between diversity and intra-group conflict. O'Reilly, Williams, and Barsade (1997) found from their examination of 32 teams in a large firm that diversity in tenure was positively linked to conflict. Alagna, Reddy *et al.* (1982) in their small study of medical students examined the effect of gender diversity on group conflict, interpersonal tension, and friendliness. The study found that gender diverse groups experienced higher levels of conflict and tension and less friendliness than male homogenous groups. Accordingly, Pelled (1996) found that diversity in the visible characteristics (age, gender, race, and company tenure) of group members resulted in affective or emotional conflict, whereas diversity in functional background or unobservable characteristics, such as education, resulted in task conflict.

Despite hypothesising that affective conflict would have negative influence on group process, Pelled (1996) found no strong supporting evidence. As concluded by Williams and O'Reilly (1998) in their comprehensive literature review on gender diversity, there is only weak evidence of significant process loss in work groups that are diverse in the gender of their members. Similarly, although Pelled (1996) and Pelled, Eisenhardt *et al.* (1997) found that race/ethnic diversity was associated with higher levels of emotional conflict, in a later study, Pelled, Eisenhardt *et al.* (1997) found no support for racial diversity leading to conflict.

These studies suggest that the type of conflict generated by diversity mediate whether the conflict has a positive or negative effect on group process and performance (Amason 1996; Pelled, Eisenhardt, & Xin, 1999). Jehn, (1993, 1995, 1997) and Jehn, Northcraft and Neale (1999) argued that different types of diversity lead to different types of conflict, which explain competing predictions for diversity. It is reported that information diversity increases task and process conflict. This results as group members rely on their knowledge bases and perspectives that vary with their different educational backgrounds, training, and work experience, which in turn leads to differing opinions on task and process decisions. Social category diversity suggests increased relationship conflict in workgroups, since individuals drive to maintain their self-esteem by maintaining social categories. Similarly, value diversity increases task, process and relational conflict, as dissimilarity in group members' goals and values inhibits interpersonal relations from being amiable, obstructing the exchange of information from which to harness the benefit from diversity.

Communication Problems

In regards to communication, social categorisation theory predicts that diverse groups will not be able to communicate with the same degree of fluidity as individuals who are defined by the same social categories. Specifically, the literature reports that members of minority groups do not have access to informal communication mechanisms that facilitate the flow and richness of information for improved performance and opportunities for advancement.

In Zenger and Lawrence (1989) study of the influence of age and tenure diversity on 88 research and development workers in a U.S. electronics firm, homogeneity was positively associated with frequency of technical communication in teams. Specifically, it was found that employees would communicate more frequently with similar members outside the project group than with dissimilar employees. According to Cannings and Montmarquette (1991) study of differences between men and women in "managerial momentum"- the sustained career progress within the firm - women typically relied more than men on formal bidding for promotion to secure positions for promotion. This tended to stunt women's career momentum. On the other hand, men had a greater tendency to use informal networks to gain attention from superiors of their desire for promotion. Men were typically able to avoid the performance evaluation process in which, on average, they performed more poorly than women.

In a study conducted by Smith, Smith *et al.* (1996), diversity in relation to tenure was negatively associated with the amount of informal communication in the group. The same study concluded that this negatively effected social integration and thus group process. Chatman, Polzer *et al.* (1998) in their study of 258 first year MBA students measured the effects of the demographic variables gender, race and nationality on the dependent variables of interaction with coworkers, conflict, idea quality and productivity and found that increased diversity negatively influenced interaction.

Although there is a great amount of literature to show that diversity is negatively related to the frequency of informal communication, Hoffman (1985) found support for a positive association between diversity and formal communication. In a study of 96 federal civilian installations, as the number of blacks increased, the amount of formal organisational-level communication, such as manager meetings, increased. This suggests that diversity present groups with barriers to informal communication, although it may increase formal communication.

Further, Ancona and Caldwell (1992) reported higher frequency of communication with individuals outside the project group in groups that were functionally diverse. Accordingly, in a study of top management teams of 70 strategic business units, Glick, Miller *et al.* (1993) reported that functional diversity lead to more frequent communication within the team. In Ibarra (1997) extension of earlier works examining the relationship between gender and communication networks, it was concluded that women's networks were less homophilous than men's networks. However, there was evidence to show that high potential women generally relied on homophilous ties for social exchanges to gain advice and psychological support; although women with high advancement potential relied more on close relationships and ties with men outside their sub-units for instrumental exchanges. This confirms previous findings, suggesting that men and women use different types of networks to provide them with alternative access points to similar avenues for career development.

Factionalism

The literature on factionalism explores mainly the impact of diversity on the creation of in-groups and out-groups based on salient attributes for social categorisation. Although the following review accounts for the role of gender diversity in factionalism, it is by no means all that exists in the literature on diversity and factionalism. Rather it serves to show that social categorisation by a salient attribute, such as gender, occurs and leads to factionalism within a group.

In Kanter (1977) seminal piece on the relationship between sex diversity and group process, he argued that the use of sex as a salient attribute for the creation of in/out-groups will depend upon the proportion of men and women in units across the entire hierarchy. Consistent with the social categorisation prediction, as the proportion of minority individuals in a group grows smaller those attributes characteristic of the minority group will become more salient as a basis for social categorisation. Proportions influence what attributes will be used to create in-groups and out-groups and shape the cognitive biases of the members of those groups.

As Ely (1994) reported, when there is evidence of women's advancement, such as an equal proportion of women to men in the upper echelons of management, professional junior women will perceive their female group colleges favourably relative to men. Women will positively identify with being a woman, which will lead to other professional junior women being seen as in-group members and treated favourably. Ely (1995), among others (e.g. Blum & Smith 1988; Zimmer 1988; Yoder 1991 as cited in Ely 1995) argued that number balancing within work groups is not the answer to these process problems. Rather, it is the balancing of gender across an organisation's hierarchy, especially in positions of legitimacy, authority and power. Ely

(1995) proposed that it is the role of power that plays an important part in shaping women's workplace experiences, social categorisation process, and behaviour with women coworkers.

Ibarra (1992, 1993, 1997) attributed variations in network mechanisms used by men and women to the nature of social categorisation. Ibarra (1993) concluded from a network analytic study of the interaction patterns of 34 men and 45 women, that men were more likely than women to form homophilous ties across multiple networks and to have stronger homophilous ties. Homophily refers to a preference to deal with or associate with same individuals and in this case, preference to deal with the same gender. Women typically formed different network patterns, whereby they obtained social support and friendship from women with greater heterophily in their instrumental networks. This indicates that women are less likely to be integrated into male dominated groups. Females may need to develop instrumental networks with males such that males finds those females valuable as network ties and thus be included in male communication networks, which are believed to facilitate one's career advancement.

Powell (1989) discussion of the forces affecting the future of equal opportunity in regard to gender highlights the persistence of gender differentiation in socialisation. This is argued to be due in large part to the simultaneous stability and change in the current state of female/male work roles. Although a majority of women have rejected the traditional role of women as "a home-maker", many men continue to subscribe to the notion of the man as "a breadwinner". With these opposing views of work roles in the workplace, there remains considerable stereotyping that influences the occupations and managerial positions into which women are accepted. Although much empirical evidence shows gender is not an adequate predictor of performance in managerial positions, women remain in the minority in management, especially in top management levels. Three decades of affirmative action and equal opportunity laws, although making a superficial difference in sex discrimination, have not made a significant change to the segregation of occupations by gender or in the difference between men's and women's wages. This is because people still behave according to socialised behaviour contributing to gender stereotyping.

In regards to ethnicity, there are several studies that confirm the notion that proportions matter. For example, in a study of 98 work groups in an insurance company, Riordan and Shore (1997) found that all participants reported lower levels of commitment to the work group when they were in work groups composed of diverse individuals. Additionally, in a study by Pelled, Eisenhardt *et al.* (1997), groups that were significantly diverse, such that being different was perceived as normal among that group's members, exhibited low levels of affective conflict. Further, O'Reilly, Williams, and Barsade (1997) found from their study comprising a sample with a high proportion of minorities, that there was no supporting evidence to suggest that diversity leads to conflict.

Summary

The literature on the effects of diversity on group process predict that social categorisation results in conflictual relations, communication problems, and factionalism within the group, as group members fail to identify with diverse members who are categorised into out-groups. Group members then deal with each other based on the cognitive biases and assumptions that are associated with corresponding social categories. The manner in which group members relate to in-group members and out-group members can also be explained using similarity/attraction theory.

3.4 Similarity/Attraction Effects on Group Processes

From a similarity/attraction paradigm, one would predict that a diverse group would generate less opportunity for interpersonal attraction based on similarity. There is substantial supporting evidence in the diversity literature that examines the role of diversity and similarity in group process. For example, Tsui and

O'Reilly (1989) used similarity/attraction theory to explore their belief that a similar time of entry into an organisation would be associated with increased interpersonal attraction. Pfeffer (1985) argued that since individuals who enter the firm at the same time share common experiences and have more opportunities for interaction, they are more likely to feel a familial affiliation with similar entrants. Subsequently, they are more likely to form stronger ties with familiar entrants than with those who enter the firm at other times. Similarity cohorts generate greater frequency of communication and consequently more effective communication both encouraging integration and cohesion and perpetuating interpersonal similarity. These effects improve group processes.

The empirical findings based on the similarity/attraction paradigm are consistent with social categorisation predictions. That is, similarity/attraction theory also predicts that dissimilarity often results in group process loss, such as less positive attitudes, less frequent communication, and a higher likelihood of turnover from the group, especially among those who are most dissimilar. Specifically, Williams and O'Reilly (1998) conclude from their detailed literature review that homogeneity predicts liking, effective communication, and cohesiveness; heterogeneity does not.

Liking

Co-worker interaction is a necessary component for many jobs. Further, positive co-worker relationships are often the active component in achieving effective group process and maintaining productive group performance. Scott and Taylor (1985) reported a strong inverse relationship between satisfaction with co-workers and frequency of absenteeism. Westphal's (1996) (cited in Williams & O'Reilly, 1998) study of 413 companies found that CEOs appoint new directors who are socially similar in terms of tenure and functional, educational, and age backgrounds.

Many researchers have examined what types of similarity influence liking. For example, Lydon, Jamieson *et al.* (1988) examined the effect of attitudinal and activity similarity on general liking and respect. The study involved an examination of 81 subjects who provided information about their attitudes on various social and personal topics and on their preference for various hobbies and activities. Once asked to rate their liking and respect for a similar and a dissimilar individual, it was shown that attitude and activity similarity predicted liking and respect, whereby attitude similarity was a better predictor of respect and activity similarity a better predictor of liking.

A study by Alagna, Reddy *et al.* (1982) examined the influence of difference in observable demographic attributes, such as gender, on interpersonal liking. They reported that mixed groups experienced lower levels of friendliness as well as greater levels of tension and conflict. In Glaman, Jones *et al.* (1996) examination of the effect of different types of coworker similarity on co-worker liking and preference, demographic similarity was shown to act as the strongest predictor of initial social liking and co-worker preference. However, two weeks into the study, value similarity was the most important predictor, and after three weeks personal values predicted both liking and preferences.

Cohen, Broschak *et al.* (1998) studied the role of gender diversity on the hiring and advancement of females. Their findings indicate that women are more likely to be hired and promoted into a chosen managerial level when a high proportion of women is currently employed at that level. However, it was also found that women are more likely to be hired and promoted when a substantial minority of women is hired at the level above the desired promotion level. The dilemma is two fold: how can women gain entry into these positions when a high proportion of women in higher hierarchical levels can act both in their favour but also against their efforts. As Ibarra (1992) points out females face a catch-22 situation whereby they must make male ties before they are included in male ties. The similarity/attraction paradigm would explain homophily as leading to the exclusion of women or limited access to interaction networks as preference for others who are similar on given attributes such as gender, race, age, education, and personal characteristics.

Effective communication

Similarity-attraction theory has come to form the basis for homophily research and the effects that diversity may have on intra-group communication (Williams and O'Reilly, 1998). Homophily research argues that individuals will generally communicate in higher frequency with other individuals who are similar to themselves (Ibarra, 1992, 1993, 1997). As Ibarra (1992, 1993, 1997) and Ely (1994, 1995) show in their research findings, homophily supports the use of informal communication channels, which enhances the frequency and relevance of information, necessary for problem-solving and decision-making and career advancement.

As Williams and O'Reilly (1998) state, heterogeneity leads to decreased communication, message distortion, and more errors in communication. In contrast, homogenous groups are more likely to have easier flow of communication, both in terms of greater frequency and in terms of less distortion or misinterpretation of information. In the case of homophily, individuals are believed to decipher messages using similar mental models (O'Reilly, Snyder, and Booth, 1993) (see section "3.0 Mental Models: A Theoretical Framework for Conceptualising International Business in Culturally-Complex Environments" In *International Business Case for Managing Diversity*).

Cohesiveness

That dissimilarity predicts conflict while similarity promotes cohesion is well supported by the similarity/attraction literature (Williams and O'Reilly, 1998). O'Reilly, Snyder, and Boothe (1993) found that homogenous teams in terms of tenure had more cohesive interrelations among its members than heterogeneous teams. Jehn (1997) investigated the effects of value congruence and demographic dissimilarity among group members on the various types of conflict highlighted in previous studies. Empirical studies suggest that observable individual differences (e.g., gender and age) increase relationship conflict, while unobservable individual differences (e.g., education) increase task conflict. Value similarity decreased both relationship and task conflict (Jehn, Northcraft and Neale, 1999).

Shaw and Barrett-Power (1998) considered the affect of cognitive paradigm dissimilarity on group process and performance. Cognitive process dissimilarity refers to differences in unobservable differences, such as personality and cultural beliefs. These attributes form the building blocks upon which observable attributes become sources of visible difference between individuals. Shaw and Barrett-Power (1998) analysed the role of cognitive diversity on various stages of the group formation, those being forming, storming, norming and performing. They argued that the cognitive effort required to adapt to dissimilarity effects this four-stage process. If the cost of overcoming stereotypes and biases is greater than the benefit or reward expected from the cognitive effort required, there will be less interaction with dissimilar individuals and group cohesion will be more difficult to achieve. Although dissimilarity in unobservable characteristics may not surface during the forming stage, they may become obvious during the storming stage, which may inhibit norm creation and the attainment of desirable performance outcomes, if, again, the cost of cognitive effort to manage dissimilarity outweighs its return.

Summary

The empirical literature on the effects of diversity on group process confirmed the similarity/attraction hypotheses that group diversity leads to disliking, ineffective communication, and disruptive interrelations. Due to a lack of interpersonal similarity individuals within the group have no points in common to develop their mutual feelings towards each other. As a result, feelings that promote attraction and self-validate ones own self-esteem do not eventuate.

Whether the effects of social categorisation and similarity/attraction on group processes have net positive or negative effects on group performance depend on the structure of the group. By structure, we refer to task type, task complexity and interdependence, how old or young is the group and the group's identity or culture. These potential moderators, discussed in the following section, can minimise the negative performance outcome of diversity while promoting the positive advantages. Diversity will incur costs without moderators, including explicit HRM interventions.

4.0 POTENTIAL MODERATORS

4.1 Introduction

When we combine the three theoretical approaches in the form of an integrated model as Williams and O'Reilly (1998) have done,

the overall effect of diversity is likely to have a u-shaped form with some increments of diversity having large positive increases in group problem-solving capability with comparatively small negative effects on group functioning. Large amounts of diversity in groups may offer little in the way of added value from unique information and make group cohesion and functioning difficult. (p. 90)

These curvilinear effects may be moderated by contextual factors such as the group's structure, in terms of task type; task complexity and interdependence; the time that the group has existed; and the team's identity and its culture (Jackson, 1992; Williams and O'Reilly, 1998; Jehn, Northcraft & Neale, 1999). The literature suggests that these factors act to either advance or regress the processes of social categorisation and decision-making. This suggests that organisations must compose and manage their work groups and teams, providing a key role for HR managers.

Jackson (1992) noted that much of the research on diversity indicates that although heterogeneity appears to facilitate performance on tasks that are complex, require creativity, are non-routine and call for strong decision-making ability, heterogeneity generally inhibits group cohesiveness and leads to conflict. Whether diversity has a positive or negative effect on performance depends on the structure of the group. This means that the key objective of organisations is to manage their groups by recognising structure differences to realise the positive consequences of homogeneity and heterogeneity. This relates to HR managers need to understand what types of diversity and what group structures lead to different types of conflict. How these different types of conflict are managed will determine whether diversity has a positive or negative influence on the group's performance.

Nonaka and Takeuchi (1995) argued that informational diversity can offer little benefit to a workgroup whose workers cannot work together effectively to capitalise from it. Jehn, Northcraft and Neale (1999) argue for the effective management of conflict arising from diversity such that the organisation can then harness the information diversity that rises from diverse individuals contributing to task and process decision-making and problem-solving. In an earlier study, Jehn (1995) examined the structure of 105 work groups and management teams to address the question of whether conflict can be beneficial. The study results indicated that whether conflict was beneficial depended on the type of conflict and the structure of the group in terms of task type, task interdependence, and group norms.

Jehn (1997) found that relationship and process conflicts were detrimental to performance and satisfaction, while moderate to high levels of task conflict were positively related to group performance. Jehn (1995) reported that group performance in routine tasks was negatively associated with task conflict. However, in groups performing non-routine tasks, task conflict was often beneficial to the quality of decisions. Additionally, although norm homogeneity was positively associated with interpersonal liking, it did not facilitate members' abilities to deal with conflict constructively.

Pelled, Eisenhardt and Xin (1999) also proposed that work group diversity indirectly affect cognitive task performance through the influence of task conflict and emotional conflict on group process. Their basic proposition is that task conflict typically enhances performance by facilitating constructive criticism, while emotional conflict reduces performance by inhibiting cohesive group process. Further, they argue that task conflict has more favourable effects on cognitive task performance than does emotional conflict. From a study that included members from 45 teams in the electronics division of three major corporations, Pelled, Eisenhardt and Xin (1999) found that task conflict is caused by functional background diversity. It is argued

that task conflict may be constructive in that cross-functional teams can generate a range of problem-solving opinions and enhance the quality of decision-making.

Since value and social diversity underpin much of the conflict that arises from diversity and thus moderate the benefit of informational diversity, organisations should focus their diversity management on the interaction of individuals in work groups that change over time. That is, the organisation must consider the structure of the group that influences these relationships. Those potential moderators include the task type, task complexity, task interdependence, time, common goals and identity, and culture.

4.2 Task Type

There has been surprisingly little research since Jackson's 1992 paper examining the moderating effects of task type on the relations between diversity and group process and performance. Jackson (1992) studied the relationship between personal attribute and ability diversity and performance tasks, intellectual tasks, creative idea generation tasks and decision-making tasks. These tasks are treated as potential factors that moderate the effects of diversity on performance and process. "Performance tasks are those requiring perceptual and motor skills, where the outcomes of interest are proficiency and productivity. Objective standards for performance evaluation are assumed to exist" (Jackson, 1992: 144). An intellectual task is a problem-solving cognitive based task whereby a correct answer is assumed to exist. The difference between an intellectual task and a decision-making task is that the objective of decision-making tasks is to reach consensus about the best solution to a problem when there is no "right" answer. Creative idea generation is an essential aspect of the decision-making process as it shapes the outcome.

Jackson (1992) proposed groups that are homogenous in personal attributes outperform heterogeneous groups in performance tasks. This outcome also occurs when tasks are interdependent, as well as for tasks that require low interdependence. On the other hand, in regards to the relationship between ability composition and performance tasks, Jackson (1992) argued that groups composed of members with heterogeneous technical abilities do better on performance tasks than groups composed of members with homogenous technical abilities. In regards to intellectual tasks, groups composed of members with dissimilar personal attributes outperform groups with similar personal attributes, since the greater the heterogeneity the greater the probability the group in determining the correct answer to the problems being solved. However, ability diversity was more important as a predictor variable for determining the correct answers to problems. This is due to the idea that a group that contained a broader variety of skills was a group that had a greater average ability to perform intellectual tasks than those groups with ability homogeneity.

Based on several reviews covering research on the effects of personal attribute diversity on creative idea generation and decision-making tasks, Jackson (1992) concluded that heterogeneous groups are more likely than homogenous groups to be creative and to reach high-quality decisions. This conclusion relates to a variety of attributes, including personality, types of training, and attitudes (e.g., Hoffman & Maier, 1961; Pelz, 1956; Hoffman, Harburg, & Maier, 1962; Triadis, Hall, & Ewen, 1965; Willems & Clark, 1971 respectively as cited in Jackson, 1992:148). The basic reasoning to why heterogeneity of personal attributes enhances performance on creative and decision-making tasks is that people who are dissimilar in their perspectives bring alternate perspectives to the group who can then develop a richer understanding of the complexity of the task. However, the benefits from pooling different perspectives can be mitigated by the process loss that has been shown to result from the interaction of diverse individuals.

Regarding the relationship between ability diversity and creativity and decision-making, Jackson cited studies that have found that high-ability members benefit from interaction with lower ability members. One possible explanation is that high-ability individuals take on the role of teacher when interacting with lower

ability individuals, which requires the high-ability individual to simplify the assumptions and rules that they use naturally when dealing with others of similar abilities. This simplification leads the high-ability individual to sharpen their own understanding and to question assumptions that may not actually make sense, thus stimulating creative idea generation and higher-quality decisions.

In summary, personality homogeneity leads to better performance in performance tasks while personality heterogeneity leads to better performance in intellectual tasks, creative idea generation, and decision-making tasks. Ability diversity leads to better performance in all task types. This result is based on the fact that personal attribute and ability diversity increases the pool of perspectives available for performing efficiently, finding the correct answer, and being creative, all of which enhances decision-making outcomes.

4.3 Task Complexity and Task Interdependence

Jehn, Northcraft, and Neale (1999) argued that the main moderators determining whether conflict is beneficial are task complexity and task interdependence. When tasks require perceptual and motor skills and prioritise proficiency and productivity, the task is generally non-complex. In this situation, diversity in social and value attributes is likely to lead to relationship and process conflict (Jehn, 1995), resulting in poorer performance than homogenous groups (Jackson, 1992) that are cohesive and do not suffer from communication problems (Williams and O'Reilly, 1998). This result holds for simple tasks that require high and low task interdependence.

When task complexity is high, workers cannot rely on standard operating procedures (Jehn, *et al*, 1999). Complex tasks are often problem-solving cognitively based tasks that requires creative idea generation (Jackson, 1992). In this situation, informational (ability) diversity will be beneficial for complex problem-solving and decision-making, as the contribution of competing perspectives and approaches is essential for members to identify appropriate task strategies and to increase members understanding of the complexities of the situation (Jackson, 1992; Jehn *et al*, 1999). When task interdependence is high, value and social category diversity are believed to lead to relationship and process conflict, which in turn will negatively effect performance in complex tasks. Value diversity and social diversity will be more likely to decrease morale when tasks are interdependent than when they are non-dependent.

Jehn *et al.* (1999) confirm that informational (or ability) diversity positively influences group performance when the task is complex. Informational diversity is beneficial since it produces task conflict, a product of value and social diversity. Task conflict encourages group members to question the status quo, placing greater demand on their cognitive processing capacity, on careful analysis of the problem, and on better use of the information residing in its diverse membership, which leads to greater problem solving ability and enhanced creativity. In contrast to Jehn, *et al.*'s (1999) hypothesis on the effects of value and social category diversity on morale in highly interdependent tasks and in turn morale's effect on performance, performance in highly interdependent and complex tasks was found to be strong. Social category diversity positively influenced group member morale although it resulted in increased relationship conflict. This means that higher performance resulting from enhanced decision-making has a greater positive influence on morale than the negative influence of relationship and process conflicts. This suggests that performance also act as a potential moderator to group performance.

This last finding is important, as it suggests that social categorisation effects on complex and interdependent tasks can be alleviated by the enhanced morale that streams from improved performance that is directly related to informational diversity. Specifically, over time informational diversity is a stronger predictive variable for performance than social category and value diversity.

4.4 Group Longevity

A few studies have investigated Williams and O'Reilly's (1998) argument that the effect of increased information stemming from diversity in work group composition has a curvilinear effect. Longitudinal research shows that the negative effects of social categorisation and similarity/attraction lessen with the longevity of the group and as the group forms, storms and norms. Social categorisation and similarity/attraction initially has a stronger negative effect on group performance than informational diversity has a positive impact.

Following the results from a longitudinal study conducted in 1991 Watson, Johnson *et al.* (1998) and Watson, Kumar *et al.* (1993) argue for time as an intervening variable that determines the effects of diversity on team process and performance. Watson, Kumar *et al.* (1993) argued that cultural diversity enhances problem solving and decision-making, although it may lead to process problems early in the group's life. The examination of the process and performance of homogenous and heterogeneous groups created from 173 principles of management course students, conducted over a 17-week period reported that homogenous groups initially outperformed heterogeneous groups on both process and performance effectiveness (Watson, Kumar *et al.* 1993). However, as Kirchmeyer, *et al.* (1992) also revealed, over time, both groups showed improvement on process and performance. By week 17 in Watson, Kumar *et al.* (1993) study, there were no differences in process or performance, but the heterogeneous groups scored higher on two task measures: identifying problem perspectives and generating solution alternatives. These findings suggest that over time, members resolve group process issues and as diversity provides the group with a variety of viewpoints, the effectiveness of group process and problem solving will improve.

Watson, Johnson *et al.* (1998) examine the relationship between interpersonal processes, such as team-orientation and self-orientation and diversity and their link to team performance over time. From their two sample study, the first including 226 students and the second including 449 students, it was reported that regardless of the extent of cultural diversity, teams can learn to perform better with periodic feedback about performance and how to improve interpersonal processes for better performance. Diverse work groups displayed more self-orientated behaviours than non-diverse teams over time, as diverse teams come to develop means of dealing with divergent perspectives in order to problem-solve effectively. Team orientation and self-orientation were two of the means that evolved and were directly related to team performance during the early and late periods of the study.

Fujimoto, Hartel, Hartel, and Baker (2000) found in their examination of the moderating effects of individual orientations to dissimilarity on group process and performance, that the diverse groups reported the highest levels of commitment. The teams studied were "well-established" teams in terms of their time spent together, and the results support the argument that as diverse teams develop over time, development of higher levels of commitment witnessed a weakening of the stereotypes and cognitive biases shaped by observable and unobservable differences. Further, over time those who remain in the group come to value the diversity within the group. The group actually evolved common goals and a common identity that became more salient in the categorisation and liking of one another than did individual attributes.

4.5 Common Goals and Identity & Collective Culture

The social categorisation and similarity/attraction processes that lead to negative diversity effects can also be leveraged to potentially moderate the negative effects they create. Since diversity challenges ones conception of self-identity, creating a common organisational identity or goal, may reduce in-group/out-group biases based on demographic differences. Perceived similarity based on adherence to organisational norms moderates the negative effects of diversity due to social categorisation and similarity/attraction. Collectivist cultures may reduce individualistic social categorisation effects. However, realising these

benefits is dependent upon firms' members' dispositions to diversity and cooperation. That is, some individuals may have individualistic rather than collectivist dispositions, which represents the dilemma of participation in the management of diversity.

Schneider and Northcraft (1999) attribute the dilemma of organisational participation as a function of the dilemma of managerial and individual participation. The dilemma of organisational participation follows that although it is in the interest of society that all organisations support diversity, it may be in the interest of a particular organisation that *other* organisations assume this responsibility. The dilemma of managerial participation states that although it is in the interest of the organisation that all managers support and manage diverse work groups, it may be in the interest of any particular manager that *other* managers assume that responsibility. Additionally, although it may be in the interest of all organisational members that everyone furthers the pursuit of diversity, it may be in the interest of particular individuals to continue to categorise *others* in pursuit of maintaining their own self-esteem.

This argument is the familiar externality case in economics. While it is optimal for society that everyone pays for defence or does not litter, a free-rider can gain the benefits (an army or clean streets) without paying for them him or herself. In these cases management must implement incentives or coercion to deter free-riders.

Managing for long-term functional diversity represents issues of incentives, coercion, and time that are costly, especially when individual participation is low due to a dissatisfaction with working with diverse individuals. Intra-group conflict typically arises when diversity is not proactively managed, leading some managers to recruit individuals that are similar to the majority of employees in the organisation. The cost is the loss of innovation and problem-solving capacity. To overcome the dilemma, the organisation needs to encourage individuals to actively support diversity and this involves promoting their openness to dissimilarity.

Fujimoto, Hartel *et al.* (2000) argue that openness to dissimilarity moderates the consequences of diversity in well-established groups. Specifically, the model identifies individual, group, and organisational openness as moderating the effects of diversity in workgroups. "Openness to perceived dissimilarity" is used to describe an individual's disposition to cooperate with others in an attempt to learn from dissimilar others and make an effort to understand a different perspective. Based on a study of 79 employees of a large multinational hotel in southeastern Australia, openness to dissimilarity was positively related to commitment and social integration. This suggests that openness to dissimilarity can be an effective tool in overcoming the negative consequences of social categorisation and similarity/attraction.

Chatman and Bersade (1995) rely on congruence theory to explore the personal and situational sources of cooperation under conditions of personality fit and misfit with organisational culture. The basic logic of person-situation congruence is that the greater the fit, the greater the individual's cooperation (Edwards 1994). O'Reilly, Chatman *et al.* (1991) posit that finding a fit between personal characteristic and organisational culture produces better job performance, longer tenure, and greater commitment to the firm.

Applying the person-situation congruence approach to diversity, the diversity effect on group performance and process depends on individual disposition to diversity and their disposition to cooperate with diverse others. Diversity has less of a negative effect the greater the disposition to cooperate with diverse others and the greater the organisation's disposition to support and reward interpersonal cooperation between diverse individuals. Chatman and Bersade (1995) found from their study of 139 MBA students that individuals with a high disposition to cooperate, who also work in a collectivist organisational culture, were more cooperative than individuals with a low disposition to cooperate in a firm with an individualistic culture. Cooperation is more closely related to one's personality or disposition to cooperate than the demands of the

situation. These findings are consistent with typical congruence studies that find that person and situation characteristics have a stronger combined effect than either alone.

Chatman, Polzer, Barsade and Neale (1998) analysed whether organisational membership as a social category was a significant attribute from which to identify oneself and others. The main question sought to determine the extent organisational culture influenced the orientation of its members who have similar and dissimilar orientations to the organisation and each other. Based on a study of 258 first year MBA students, they concluded that organisational culture did influence intra/inter-group behaviour. The study revealed that the benefits of diversity were more likely to stem from organisations that make organisational membership salient and encourage people to categorise one another as having the organisation's interests in common, rather than those that emphasise individualism and distinctiveness among members.

Hickman and Creighton-Zollar (1998) argued that having a common purpose or goal to unify a diverse team was important in focussing groups, directly influencing performance outcomes. Northcraft *et al* (1995) refer to this as establishing 'congruent objectives' and Ancona and Caldwell (1992) describe this as the creation of 'clear goals and priorities' (both cited in Hickman and Creighton-Zollar, 1998:192).

Tjosvold (1998) and Alper, Tjosvold *et al.* (2000) examine the influence of cooperative and competitive goals on employee involvement and group process effectiveness and performance. They found that cooperative goals contributed to constructive discussion among employees and consequently lead to productive work and stronger relationships. This finding suggests that managers need to create cooperative goals and skills to facilitate open-minded discussion of various perspectives within diverse teams.

To attenuate the negative effects of diversity stemming from social categorisation and similarity/attraction cognitive processes that lead to in-group/out-group biases managers must manage these cognitive processes. Besides giving the diverse group time to norm and independently reassess the group's identity and goals, managers should create a new identity or corporate culture that individuals adopt as salient in defining both their self-identity and determining their liking for co-workers. Managers should also consider an individual's disposition to diversity and change, especially when implementing a new culture of embracing diversity.

Summary

Research has demonstrated the negative effects of diversity on work groups and team performance, but these negative effects can be attenuated and interrupted by the important positive effects of diversity on performance. Diversity must be effectively managed. This points to the important role that human resource strategies have in capitalising on the positive effects of diversity in work groups and its role in attenuating the negative interpersonal effects that a shift from homogeneity can create. Specifically, managers must identify the potential moderators that close the negative-positive diversity gap. HRM strategies should re-categorise individual involvement in a way that enhances the group's identification with a common task and reduces the tendency to create socially irrelevant in-groups over time.

5.0 EFFECTS ON GROUP PERFORMANCE

5.1 Information and Decision-Making

Many of the hypothesised benefits of diversity are found in the literature on information and decision-making. Diversity is said to bring new knowledge, skills, information, and unique perspectives to bear on problem solving and decision-making processes. This should improve group performance via information exchange, the consideration of alternative solutions, and the analysis of varied perspective, which results in higher quality decisions and solutions, creativity and innovation.

Creativity refers to 'the production of novel and useful ideas' (Mumford and Gustafson, 1998 cited in Scott and Bruce 1994:581). Kanter (1988:169) states that '[I]nnovation consists of a set of tasks carried out at the micro-level by individuals and groups of individuals within an organisation'. More specifically, innovation refers to the 'production or adoption of useful ideas and idea implementation' (Kanter, 1988; Van de Ven, 1986 cited in Scott and Bruce, 1994:581) and also refers to the adaptation of products, service, or ideas that originate outside the organisation (Scott and Bruce, 1994). If organisations can address the group process issues, which hamper information sharing, that is social categorisation and similarity/attraction processes, then enhanced group performance, creativity and innovation should follow.

This section reports on research that has considered the effects of diversity on group performance from an information and decision making perspective. Much of the research has been carried out in laboratory studies and the findings generally demonstrate the superiority of heterogeneous teams over homogenous teams; however, there have been some studies that dispute this. Results have been mixed, highlighting the complex nature of the relationship between diversity and performance.

While diversity in group composition may slow down progress in the short-term, even in well-managed teams, there is evidence that diversity fosters speed and innovation over the full development cycle (Ancona, 1990: cited in Ancona and Caldwell, 1992:338). As mentioned previously (see Section 4.4) *time* is an important factor in assessing the impact of diversity. Jackson (1992) recognises the hurdles faced by heterogeneous teams and states that,

[A]lthough many researchers would probably agree that heterogeneous groups experience more process losses than homogenous groups, it is not at all clear that such process losses are sufficiently large to outweigh the benefits of heterogeneity of ability (1992:147).

Research has tended to concentrate on abilities and skills rather than personal attributes. However, despite a widespread belief that diversity is positive for performance via improved decision making and problem solving improvements, the evidence has been mixed. Jackson (1992) cited a study by Pelz (1956) who found productivity was positively correlated with the extent to which scientists and engineers had communication with colleagues with different training and expertise. In a study of B-29 bomber crews, Voiers (1956, cited in Jackson, 1992) showed that heterogeneous teams facilitated improved performance. However, this improved performance was dependent on the teams' ability to match heterogeneous skills with the tasks members were most suited to (see Section 4.2).

The study undertaken by Ancona and Caldwell (1992) provided valuable insights into the complex effects of diversity in organisations and considered the issues of process, performance and implementation. They found that functional and tenure diversity effects group performance via group processes, it also has direct effects on performance. Their study of functional and tenure diversity involved 45 new product teams in five high-technology companies. These teams were responsible for developing a prototype product and transferring it to manufacturing and marketing groups. Ancona and Caldwell (1992) found that functional and tenure diversity had distinct effects. The greater the functional diversity in the teams, the more likely

members were to communicate outside the formal boundaries of the team. The higher this outside communication, the higher the managerial ratings of overall team performance. Tenure diversity impacted more on group dynamics than external communication and was associated with improved task work, such as setting priorities and clarifying goals. The clarity of goals associated with tenure diversity led to high team ratings of overall performance.

Despite these positive performance effects, Ancona and Caldwell (1992:338) showed that diversity in teams was not inherently positive. While the diversity 'produced internal processes and external communication that [facilitated] performance', this diversity also directly impeded performance (Ancona and Caldwell, 1996:321). High functional diversity was directly associated with lower ratings of performance, particularly in the case of managerial ratings of innovation and team ratings of overall performance. Tenure diversity also showed a direct and negative effect on team and managerial ratings of performance. While some aspects of group performance were enhanced by diversity, overall the effects were negative.

A significant finding from the study was that, in contrast to much diversity literature that predicts diversity effects on performance via group process effects, Ancona and Caldwell (1992) found that the direct effects of diversity (functional and tenure) on performance were larger than effects mediated by group processes. More importantly, they found that the direct effects were negative. The authors concluded that tenure and functional diversity bring creative potential to problem solving and product development teams, but 'they fall down on implementation because they have less flexibility and capability for teamwork than homogenous groups' (Ancona and Caldwell, 1992:338). The overall effect was negative because innovation is a two-stage process, involving both 'creative problem solving and implementation of the process' (Ancona and Caldwell, 1992:338).

The tensions identified in Ancona and Caldwell's (1992) study, that is the identification of positive and negative diversity effects, is potential explained by four arguments. First, the statistical analysis was deficient and an important mediating variable was omitted. Second, diversity provided for external communication but impeded social integration to the point where groups could not effectively use the information and resource's obtained from others. Third, members of diverse teams potentially have better linkages within the organisation as a whole, because of their informal communication channels, but this may result in organisational power struggles and conflicts being played out at the group level, and this affects performance. Finally, the contradictions may be explained by the timeframe within which performance is analysed. As diverse teams must confront and tackle a larger set of issues than homogenous teams (that is more interpersonal issues as well as work related issues), they may not appear as effective or as efficient as homogenous teams in the short-term.

The mixed findings of Ancona and Caldwell (1992), that diversity increased problem solving ability but failed in terms of implementation, points to the importance of effective human resource and diversity management strategies. Simply assembling a 'diverse team' is not sufficient to improve performance and return a 'diversity dividend'. Managers need to find ways of harnessing the positive problem solving abilities and overcoming the implementation and process problems faced by diverse teams. This is where real performance improvements can be produced. Team level training and facilitation in conflict management and negotiation is required to address the process problems stemming from diversity. At the organisational level, teams need to be rewarded for team-based performance, and these rewards may need to be different than rewards for homogenous teams (Ancona and Caldwell, 1992). Of critical importance, is the need for managers to recognise that diversity slows down team progress in the short-term, but over the long-term it fosters innovation. This recognition must be accompanied by adequate time for teams to evolve.

The focus of the Ancona and Caldwell (1992) study was on diversity in terms of skills and abilities. Few studies have considered diversity in terms of *personal* attributes, which produce different effects. The few studies that have considered personal attribute diversity and performance from an information and decision

making perspective have produced mixed results. Clement and Schiereck (1973, cited in Jackson, 1992) and Fenelon and Megaree (1971 cited in Jackson, 1992), both found that homogenous groups outperformed heterogeneous groups when personal attribute diversity was examined in relation to group performance. Terborg, Castore, and DeNinno (1976) produced different results. In a longitudinal study of attitudinal diversity and performance, that group heterogeneity or homogeneity was *unrelated* to group performance. Jackson (1992) cautions that despite the studies available at that time weighing in favour of personal attribute homogeneity outperforming heterogeneity in relation to both high and low task interdependence that their number is too few to make robust generalisations. Further, given that static measures of group performance, particularly done in early stages of group development, will almost surely indicate homogeneity's outperformance of heterogeneity, the application of longitudinal studies is important.

There have been few studies that have specifically considered the effect of personal attributes on *intellective tasks*, that is, problem solving tasks that have a 'correct' answer (see Section 4.2). Wood (cited in Jackson, 1992) reviewed twelve studies examining the effect of sex differences and group performance, assessed on objective criteria (accuracy or speed). The review found weak support for the proposition that mixed sex groups outperformed same sex groups (both male and female), but Wood was cautious about concluding that mixed sex groups outperform single sex groups based on such a small number of studies.

Laughlin's (1980 cited in Jackson, 1992) research found that mixed personal attribute groups should outperform homogenous attribute groups where 'attribute heterogeneity increases the probability of the group containing some members who are capable of determining the correct answer to the problems being solved' (Jackson, 1992:146). In other words, there needs to be a match between the information that individuals bring to the group and the information required to find the answer. Jackson (1992) argued, however, that in terms of *intellective tasks*, personal attribute diversity may not be as important as ability and skill diversity. That is, there needs to be someone in the group that can determine the correct answer, and bringing together a group of individuals with various skills and abilities, rather than mixed personal attributes, is important to uncovering this.

One study has considered the relationships between personal attribute diversity, information distribution and intellective tasks. Gruenfeld *et al* (1996) demonstrated the complex interaction between group composition, information distribution and ability to perform strongly in intellective tasks. The experiment showed that familiar and mixed groups chose the right answer more often when they had *partial*, rather than the full, information, indicating a willingness to share information. In contrast, stranger groups made the right choice more often when they had *full* information.

Gruenfeld *et al* (1996) however, found evidence to support the argument that heterogeneous groups outperform homogenous groups on intellective and creative tasks when all members had access to full information. The authors argued that in groups with personal-attribute diversity, members had different social networks and this increased the probability that they would question each other's judgements. Whilst this diversity had the potential to hinder information pooling, it improved the aggregation of judgements leading to higher performance. The authors argued the effects of personal attribute diversity and knowledge diversity is interactive: when members possess different information, familiar members are likely to outperform strangers. However, when personal attribute diversity is high, stranger groups are likely to outperform familiar groups where there is common knowledge. Gruenfeld *et al* (1996:12-13) summarised these findings:

Groups whose members are familiar may be more effective at pooling information and integrating alternative perspectives those groups whose members are not familiar. Paradoxically ... the more familiar group members are with one another, the less likely they are to possess unique knowledge ... Thus, while familiar groups may be better equipped psychologically to resolve conflicts effectively, they may be less likely than stranger groups to experience the knowledge asymmetries from which

cognitive conflicts arise. On the other hand, groups of strangers are likely to know different facts and have different perspectives, but they may lack the social ties and interpersonal knowledge to tap into the spoils of their diversity (Gruenfeld et al, 1996: 12-13).

Therefore, it may be important to consider not only the type of task and diversity, but also the information that the group has. The importance of personal attribute diversity has been frequently investigated in relation to decision-making, rather than, intellectual tasks. Much of the literature on diversity has promoted the notion that heterogeneous workplaces and teams of workers will produce more creative responses to problems, thus driving innovation. Heterogeneity enhances systematic variance in attitude, cognitive functioning and beliefs across demographic variables within the work group.

A greater range of approaches to problem solving and an absence of 'group think' should, if nurtured, lead to greater innovation by diverse work groups. Decision-making tasks require the group to reach a consensus about the best solution, rather than the correct answer, to a problem. It is in this area that personal attribute diversity has been repeatedly shown to lead to higher performance. Several studies demonstrate the superiority of heterogeneous groups over homogeneous groups on decision-making tasks. This has been found to hold over a number of characteristics including personality, training, and attitudes (Jackson, 1992). Hoffman (1961, and with Maier, 1961 both cited in Jackson, 1992) found heterogeneous groups outperformed homogeneous groups when asked to generate alternative solutions to a problem. The authors arguing the higher quality decisions made reflected greater conflict of ideas. Members were forced to consider a number of alternatives and this improved the quality of their work.

Ziller, Behringer and Goodchilds (1962, cited in Jackson, 1992) supported this finding with evidence that heterogeneity (facilitated by changing group members or making groups fluid) led to greater fluency and originality in a study of creative writing. Pelz and Andrews (1966, cited in Jackson, 1992) provided additional support for the 'fluidity of membership' and creativity argument in a study of scientists. Jackson concluded that 'where breadth of ideas is an important resource, heterogeneous perspectives seem to be advantageous' (1992:149).

Kilduff, Angelmar and Mehra (2000) found that successful teams both experience and allow interpretative ambiguity in the early phases of their development, exhibiting more interpretative clarity over time. Rotter and O'Connell (1982) point to women and multilingual employees feeling more comfortable with such ambiguity. Laboratory evidence supports the case that ethnically diverse groups generate more creative responses to problems. McLeod and Lobel (1992) and Watson, Kumar *et al.* (1993) have found that ethnically diverse groups produced not necessarily more ideas in response to problems than their homogeneous counterparts, but rather higher quality responses. Watson *et al.* (1993) found this higher quality took time to emerge, with the diverse groups experiencing some initial difficulty in communicating and developing appropriate routines.

Some research has considered the impact of ability/skill diversity on creative and decision-making tasks (rather than intellectual tasks). This strand of research has demonstrated the superiority of heterogeneous teams. Laughlin and Bitz (1975, cited in Jackson, 1992:150) found that groups with dissimilar ability levels outperformed homogeneous ability groups, demonstrating that 'high-ability members can benefit from interaction with others who have less ability' (Jackson, 1992:150). Drawing on Staw (1976), Jackson stated that:

[A] general conclusion that can be drawn from the results of laboratory research is that when working on complex non-routine problems – a situation that presumably requires some degree of creativity – groups are more effective when composed of individuals with diverse types of skills, knowledge, abilities, and perspectives (Jackson, 1992:150).

The previous discussion has examined much of the research which has investigated the relationships between diversity, information, problems solving, decision making and performance. From the discussion it is obvious that the relationships are complex, and that in order to cultivate decision-making, problem-solving, creativity and innovation, some of the process issues related to diversity need to be addressed. Diversity in work group composition is not inherently positive for group performance.

Channelling these potential benefits into performance improvements requires an understanding of group processes and the potential problems that come with having a diverse workforce. Hickman and Creighton-Jones (1998) identify four conditions that need to be met in order for team diversity to improve performance. These are: strategic planning and commitment by executive managers; purposeful structuring of team composition; comprehensive training programs; and reward systems designed to reinforce team work – the simple formation of a diverse team will not ensure improved outcomes. These conditions also point to the importance of HRM strategies to manage diversity and set the conditions for improved performance. Research on the effects of diversity on group and performance points to problems in the early stages of a workgroup's life as group members overcome social identity and communication differences/difficulties. Over time, however, if and when these difficulties are resolved, then there are substantial benefits to be gained from a greater variety of perspectives and greater problem -solving capabilities.

5.2 Social Categorisation and Similarity/Attraction

Overall, the literature on the effects of diversity on group performance is more consistent with predictions of social categorisation and similarity/attraction theories than with information and decision-making theories. The effects of social categorisation and similarity/attraction on the performance of diversity groups are generally explained as indirect effects, operating through group process variables, primarily communication, conflict and social integration. Williams and O'Reilly (1998) cite the main effects as reduced attraction to the group; lower levels of commitment; an inability to meet member needs; a lack of social integration; poor problem solving; and poor implementation ability. The following section provides a critical review of three of these- commitment, social integration and implementation ability- as they encompass the six.

Commitment

Since few studies have examined directly the effects of diversity on commitment, the effects of diversity on commitment have been induced from studies on the influence of diversity on individual satisfaction and turnover. For example, Tsui, Egan *et al.* (1992) reported that organisational commitment and intention to remain were negatively related, and absence positively related to heterogeneity among group members with respect to their gender, age, and race. It was also found that heterogeneity had a stronger effect on men than for women, with the men in homogenous groups reporting the highest commitment level, psychological attachment, and intent to remain among all groups.

Wharton and Baron (1991) reported that women in balanced work settings experienced greater satisfaction than were women in female-dominated settings. Jackson, Brett *et al.* (1991) found that groups that were diverse in gender, race, or age tended to have higher turnover rates than homogenous groups. Burke and McKeen (1996) conducted a study on satisfaction and the work experiences of managerial and professional women as a function of the gender proportions of their organisations. Their starting point was Kanter's (1977) hypothesis that managerial and professional women in male-dominated or skewed settings report a less satisfying and supportive work environment. From the sample of 792 women MBA and commerce students Jackson *et al.* (1991) found that gender proportion had a significant influence on the satisfaction and work experiences of women. Women in organisations with few women at senior management levels were less satisfied with their jobs and were more likely to resign than women in organisations with more women in senior management levels. Tsui and O'Reilly (1989) found that mismatch on gender between

superior and subordinate had a negative effect on the superior's rating of the subordinate's performance and the superior's liking for the subordinate, in addition to a positive association with the subordinate's role ambiguity and role conflict.

The effect of diversity on measures of perceived performance, such as performance appraisals, is important to understand because these appraisals affect the behaviour and satisfaction of group members. Tsui, Egan and O'Reilly (1992) found that age diversity was indirectly associated with lower intent to stay through its direct effect on performance appraisals. Additionally, Cummings, Zhou *et al.* (1993) find that those members who are diverse in age tended to receive lower performance ratings from their supervisors and they are likely to be absent more often. Based on data from 233 members of 42 blue-collar groups, Pelled (1996) revealed that gender and tenure dissimilarity increase the perception of intra-group emotional conflict, which indirectly reduced individual ratings of group performance and intent to remain. A possible explanation for these findings is that diverse members in a group makes most members more uncomfortable and intolerant of others perceptions, behaviour, and contributions, which fosters actual emotional conflict, which impedes the group's performance and commitment.

Tenure, race, and age diversity have similar effects on commitment. McCain, O'Reilly *et al.* (1983) examined the effects of tenure diversity on turnover in 32 university departments. They found that tenure diversity increased both voluntary and involuntary turnover. That is, tenure diversity was likely to increase conflict, reduce communication, and lead to the resignation of employees. Further, Greenhaus, Parasuraman *et al.* (1990) found that blacks generally experienced lower satisfaction with their careers than whites, as they perceived themselves to be less socially integrated into peer groups, and felt that they were given less discretion than their white coworkers. Consistent with these finding, Wagner, Pfeffer *et al.* (1984), Jackson, Brett, Sessa, Cooper, Julin, and Peyronnin (1991), and Wiersema and Allan (1993) found that age and tenure diversity was positively related to turnover.

To clarify the causality of these findings, some researches have found that commitment indirectly links to a lack of social integration through the direct relationship between social integration and turnover (O'Reilly, Caldwell, and Barnett, 1989). That is, according to social categorisation and similarity attraction theories, increased gender, age, tenure and ethnic diversity generally leads to increased factionalism, which of itself represents lower social integration. Those who were less integrated were most likely to have low levels of commitment and to high probability of turnover.

Social integration

A lack of social integration underpins the negative effects that diversity has on group performance. As previously discussed O'Reilly, Caldwell, and Barnett (1989) found that age and tenure diversity had an indirect influence on turnover through its mediating effect on social integration. That is, those members who were part of the minority or considered diverse were not be socially integrated into the group, and as a consequence, were more likely to leave.

Smith, Smith *et al.* (1996) studied the effects of top management team demography and performance. Based on data collected from 53 high-technology firms, a positive direct relationship between team social integration and performance was reported. Further, team demography indirectly related to performance through its effect on process. Process was directly related to social integration, which was positively related to homogenous team demography.

Using related frameworks of social identification theory and embedded inter-group relations theory, Lichtenstein, Alexander *et al.* (1997) hypothesise that greater diversity of team member characteristics negatively affect members' perceptions of team integration. This hypothesis was tested on 1,004 individuals working on 105 interdisciplinary treatment teams in a national sample of 29 Department of Veterans Affairs

psychiatric hospitals. Team member diversity in terms of functional background, tenure, age, and gender challenged the social identity of the group and were negatively associated with perceived levels of team integration.

Ragins, Townsend *et al.* (1998) found from their interviews with executive women holding titles of vice president or above and CEO in Fortune 1000 companies, that women professionals who have managed to enter top management positions have utilised somewhat different strategies in order to socially integrate. The three career strategies to emerge as key to the advancement of these successful women executives, were consistent superior performance, development of a managerial style with which men felt comfortable and taking on high-profile assignments. The interviews suggest that the advancement of women into very senior executive positions is dependent upon their ability to assimilate to a male defined path, which facilitates their integration into male-dominated networks.

Implementation Ability

Implementation ability and creativity and problem solving are often treated as similar aspects of group performance. The difference between the two is that literature that examines the effect of diversity on implementation ability is concerned with how diversity influences interaction and how this effects the ability to implement a decision. Literature examining the effect of diversity on creativity and problem solving emphasises the cognitive aspects of group performance, such as how the group acquires, disseminates and interprets information amongst group members to make decisions.

Ancona and Caldwell (1992) showed that diverse groups enhanced creative output of problem solving, but failed to implement solutions as effectively as homogenous groups. This is because they are less flexible and capable of team-working than are homogenous groups whose members are typically more socially integrated. For example, in a study by Hambrick, Cho *et al.* (1996) it was found that diverse teams were slower in the implementation of decisions than were homogenous teams. Further, in a study of 47 firms across 11 manufacturing industries, Flatt (1996) (cited in Williams & O'Reilly, 1998) found that homogeneity in the executive team facilitates implementation, while heterogeneity stimulated the creation of creative alternatives. Accordingly, O'Reilly, Williams and Bersade (1997) from their examination of diversity effects in 32 project teams found that tenure diversity weakened the ability of the group to implement decisions.

To explain these results, Jehn, Northcraft, and Neale (1999), Pelled, Eisenhardt, and Xin (1997), and O'Reilly, Snyder, and Boothe (1993) proposed that different types of diversity lead to certain types of conflict which have corresponding affects on implementation. For example, affective, relational or emotional conflict characterised by interpersonal disagreements typically lead to decreased social integration and thus inhibits groups from performing well. Conversely, task conflict is positively related to group performance as it increases the creative problem-solving potential of the group. As O'Reilly, Williams and Barsade (1997) have shown, race-ethnic diversity can have a positive effect on creativity and implementation ability. After controlling for the moderating effects of conflict, the authors found that groups composed of Asians and whites were more creative and better at implementing new ideas than all-white groups.

5.3 Summary

Williams and O'Reilly (1998) from their extensive literature review conclude that:

- ?? After controlling for group processes, tenure diversity has negative effects on group performance.
- ?? Gender diversity effects depend on the proportion of women and men present in the sample. Generally, men experience more negative effects from gender diversity than women, displaying lower levels of satisfaction and commitment when in the minority, although they are more likely to be socially

integrated, less likely to be treated with hostility, and less likely to be stereotyped by their female coworkers.

- ?? Age diversity is associated with increased turnover and likelihood of exit, especially amongst those who are significantly different
- ?? Functional diversity may improve performance in terms of creativity, but not necessarily in implementation. However, research in general indicates that functional diversity will stimulate task conflict, which will lead to improved performance.
- ?? Ethnic diversity, unless successfully managed, have negative effects on group processes and performance. Individuals who are different from the majority in terms of ethnicity are more likely to receive lower performance ratings, be less satisfied, and psychologically committed, and leave.

Diversity affects both group process and performance in positive and negative ways. The general conclusion from a social categorisation and similarity/attraction theory is that diversity is associated with lower levels of social integration and commitment, greater conflict, ineffective communication, lower levels of cohesiveness, ineffective and slower implementation of decisions, and higher turnover. These effects are typically considered negative. Diverse individuals are affected by in-group and out-group cognitive biases, which lead to isolation, exclusion, and a suppression of different perspectives of potential value to the firm in its acquisition of firm-specific knowledge to support the creation of competitive advantage. This is a key managerial concern since functionally diverse groups although slower to adapt and less cohesive than homogenous groups are more likely to perform better once they learn constructively through task conflict. Thus, given that group members may perceive functional diversity as salient in their categorisation of individuals into in-group and out-groups, the organisation must find ways to harness the benefits that can stream from functional diversity or reduce the negative consequences that stem from diminished group functioning.

This requires an understanding that different types of diversity effect group process and performance differently. Further, we must also acknowledge that different types of diversity are related to different types of conflict, which in turn effect group process and performance differently. How a team deals with diversity depends on the group's structure. This refers to the type of task, whether the task is complex and whether it commands interdependence among its members; the time that the team has to adjust to diversity; and the ability of management to direct social categorisation and similarity/attraction process to emphasising common goals and identities.

6.0 THE THEORY OF DIVERSITY & THE HRM BUSINESS CASE FOR PRODUCTIVE DIVERSITY

'The HRM Business Case for Diversity Management' purports that ineffective diversity management leads to the negative consequences of diversity predicted by social categorisation and similarity/attraction theories, which inhibits the positive effects of diversity predicted by information and decision-making theories, underpinning quantifiable HRM costs. For this reason, it is important to understand the complexity of the theoretical discussion given in this document. It explains why diversity can have negative implications for organisational performance and in doing so highlights points of HRM intervention necessary to productively manage diversity in order to realise an organisation's bottom line.

To identify the quantifiable or measurable effects of diversity on an organisation's bottom line, the HRM business case first examines the influence of diversity on the quality of work life, focussing on the HRM indicators of job satisfaction and commitment. Quality of work life is a qualitative outcome that moderates the quantifiable outcomes. The quantifiable HRM outcomes of ineffective diversity management include a reduction in productivity, measured in the business case by the HRM indicators of performance, absenteeism, and turnover.

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