

An empirical study of desired versus actual compensation practices in determining intrapreneurial behaviour

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Orientation: Past research recognises that human resources management practices may influence innovative behaviour, particularly as compensation systems can be used as a tool to increase intrapreneurial activity.

Research purpose: The aim of this study is to determine the relationship between actual versus desired compensation practices and elevated intrapreneurial behaviour. This is in line with research that focuses on how to promote business innovation, rather than merely research whether innovation is desirable for businesses or not.

Motivation for the study: Recognising that entrepreneurial actions are the bedrock of intrapreneurial behaviour and that these behaviours may be critical to the long-term vitality of a firm and economy, it is important to facilitate the empirical study of them in an under-researched, emerging market environment. Moreover, compensation such as reward preferences and variable pay schemes remain controversial in terms of their costs versus contributions, and these constructs deserve more empirical research.

Research approach, design and method: The study employed a quantitative research design, using a cross-sectional and empirical approach with primary data sources. A structured web-based instrument rendered a sample of 209 respondents from a diverse set of businesses. Canonical correlational analysis was carried out to test the hypotheses.

Main findings: The results reveal that a gap exists between an employee's perception of desired compensation practices and the actual compensation practices. The results further highlight that non-outcome-based measures like pay risk, job risk and expectations of success play a role in determining whether employees decide to be intrapreneurial or not.

Practical/managerial implications: Due to the potential impact rewards have on intrapreneurial behaviour, it is necessary to design relevant compensation systems as part of organisational architecture in order to foster intrapreneurship.

Contribution: In response to calls to unveil innovation practices in developing countries and in acknowledging a contingency relationship between compensation practices and intrapreneurship, this article is one of the first studies to test the relationship between actual versus desired compensation practices and elevated intrapreneurial behaviour in an emerging market context.

Introduction

Innovation is often invoked as a strategy for corporate renewal: researchers describe how human resource management (HRM) interventions are used as change levers to support a shift in business strategies (Jimenez-Jimenez & Sans-Valle 2008). Innovation and entrepreneurship in corporations have been labelled in many different ways, including intrapreneurship, with conceptual roots in innovation entrepreneurship (Schumpeter 1934), and innovation management (Covin & Miles 2007).

Past research finds that encouraging risk-taking and innovative behaviours must be consistent with individualised performance assessment and compensation (Berber *et al.* 2012; Ellis, Henry & Shockley 2010) particularly as HRM practices can affect intrapreneurship in varied ways. Attitudes towards opportunity exploitation and innovative behaviour are significant only when individuals perceive both positive subjective norms and being in high control (De Jong 2013). Management support and compensation practices promote commitment to innovate on the part of employees (Grandori, Giordani & Hayton 2011). Moreover, compensation practices can either be used as a tool to increase innovative activity or they can discourage innovative activity by rewarding other behaviours.

Research purpose

By recognising the importance of compensation practices and reward preferences (Snelgar, Renard & Venter 2013) that promote intrapreneurship, this study investigates the relationship between actual versus desired compensation practices and elevated intrapreneurial behaviour. This is in line with research that focuses on how to promote intrapreneurship, rather than merely research whether innovation is desirable for businesses or not (Kenworthy & McMullan 2013). The overall question this study seeks to address is which compensation practices are significantly associated with intrapreneurial behaviour. The study contributes to existing literature and extends current knowledge on the relationship between compensation and intrapreneurship by examining the degree of uncertainty and risk as moderators of intrapreneurial behaviour (Hayton 2005; Urban 2008). Drawing on the resource-based view, expectancy theory and agency theory, various hypotheses are formulated in which the moderating role of risk control is factored into the compensation and intrapreneurship equation. By assembling a sample of more than 200 respondents from a wide range of organisations in a diverse set of industries, this article provides preliminary evidence of differences in compensation practices in an under-researched geographical emerging market area: Johannesburg, South Africa.

Importance of research

Innovation and intrapreneurship have been emphasised as key-drivers for emerging economy firms to revitalise, reconfigure resources and transform into market-orientated firms that are ready to compete in the global economy (Yiu & Lau 2008). Recent research demonstrates the importance of how 'catching up countries' benefit from innovations in the medium and low technology sectors (Rotaba & Beaudry 2012). Thus far, there has not been much work on intrapreneurship in transition economies and emerging markets, as contrasted with entrepreneurship studies at the individual level.

Recognising that entrepreneurial actions are the bedrock of entrepreneurial processes and behaviour, and that these behaviours may be critical to the long-term vitality of a firm and economy (Stevenson 1983; Urban & Barreria 2010), it is important to facilitate the empirical study of them in an under researched, emerging market environment. Moreover, compensation such as reward preferences and variable pay schemes remain controversial in terms of their costs versus contributions, and these constructs deserve more empirical research (Moore & Bussin 2012; Ncube, Bussin & De Swardt 2013).

In response to the call to unveil innovation and technology management practices in developing countries (Cetindamar & Pretorius 2012), and in acknowledging a contingency relationship between compensation practices and intrapreneurship, this article is one of the first studies to test the relationship between actual versus desired compensation

practices and elevated intrapreneurial behaviour in an emerging market context.

Brief theoretical overview

Intrapreneurship and innovation

In most HRM practices, the basic principle is that practices differing in kind are complementary in sustaining innovation, in particular those infusing powerful individual incentives co-applied with practices infusing team spirit and organisational identification (Grandori *et al.* 2011). Consequently, if top management believes that enhancing employees' innovative behaviour will contribute to fulfilling the organisation's goals, a compensation system must be designed and supported that will promote entrepreneurship practices (Lerner, Azulay & Tishler 2009).

There are various ways to classify innovations (Miller & Miller 2012); one way to revive innovativeness and create a dynamic dominant logic is to make intrapreneurship the basis upon which the organisation is conceptualised (Morris, Kuratko & Covin 2008; Sharma & Chrisman 1999). Innovation is a multidimensional phenomenon and the development of an innovation is frequently modelled as a process. Thus, the process of the development of innovation needs to be managed diligently in order to increase performance. If firms devote substantial resources to the innovation process, but are unable to turn them into innovative offerings, resources are squandered and firm performance suffers. Moreover, innovation has to address market needs, and requires entrepreneurship if it is to achieve commercial success (Morris *et al.* 2008). Entrepreneurship and innovation are positively related to each other and interact to help an organisation to flourish. Likewise, intrapreneurship and innovation are complementary, and a combination of the two is vital to organisational success and sustainability in today's dynamic and changing environment. Additionally, entrepreneurship and innovation are not confined to the initial stages of a new venture; rather, they are dynamic and holistic processes in intrapreneurial and innovative organisations affecting the development of entrepreneurial and innovation behaviour in an organisation (Antoncic & Hisrich 2001; Urban 2008). For the purpose of this study, the term intrapreneurship is used since longstanding literature has conceptualised intrapreneurship as a multidimensional phenomenon that incorporates the behaviour and interactions of the individual, organisational, and environmental elements within organisations (Antoncic & Hisrich 2001; Covin & Miles 2007).

Compensation practices

The literature on intrapreneurship suggests that compensation practices are one of the vital structural dimensions promoting innovation and intrapreneurship (Hayton 2005). Due to the impact rewards have on intrapreneurial behaviour, they are part of the organisational environment for fostering intrapreneurship and increasing performance by intrapreneurs (Hornsby *et al.* 2009). Additionally, compensation systems require a person-organisation

fit where a needs-supplies approach that assesses the match between individual preferences and pay needs is recommended. This fit is important when considering that key aspects of human capital are vital to explaining search-based discovery and innovative behaviour (Marvel 2013).

Previous research has found that preferred compensation practices related to both the internal venture's performance and individual performance (outcome-based compensation practices) are best aligned with intrapreneurship initiatives (Lerner *et al.* 2009). Consistent with agency theory, outcome-based compensation practices align the preferences of agents and principals because the rewards for both parties depend on the same actions. In contrast, other researchers (Monsen, Patzelt & Saxton 2009) report that getting employees to participate in corporate venturing is not just a matter of financial utility maximisation, but that the other non-outcome-based measures like pay risk, job risk and expectations of success play an important role in determining employee participation. This means that contingent compensation is important in most high-performance work systems and includes aspects of gain sharing, profit sharing, stock ownership, pay for skill or various forms of individual or team incentives (Lerner *et al.* 2009; Wood & De Menezes 2011).

Resource-based theory and compensation

The resource-based theory postulates that organisations are heterogeneous in terms of the resources they control; these resources include all the assets, capabilities, attributes and knowledge an organisation possesses (Barney 1991). Even though resource heterogeneity is the most basic condition of resource-based theory, it is not enough for sustainable advantage. For instance, if an organisation has heterogeneous assets that can be easily imitated, such assets will only generate a short-term advantage (Alvarez & Busenitz 2001). On the other hand, organisations that have the capability to innovate can be expected to generate greater profits than those that are non-innovators. At the same time it seems logical that employees should be compensated more as their innovative efforts increase; as productivity from such innovative efforts increases, there should also be a matching increase in their compensation (Barney 1991).

Expectancy theory and compensation

The importance of preferred compensation practices for enhancing desired employees' behaviour can also be examined through the lens of the expectancy theory. This means that employees act in ways that they believe will result in rewards of some importance to them, such as higher earnings (Lerner *et al.* 2009). Such an expectancy premise suggests that managers can positively influence their employees by making pay contingent upon performance; this means that compensation practices should include procedures for influencing an employee's work and appraising their performance (Lerner *et al.* 2009). Similarly, Yanadori and Marler (2006) note that compensation practices

can be connected to strategic objectives by identifying the critical employee groups and choosing an appropriate policy for internal structure, mix of compensation types and the basis for pay increases.

Agency theory and compensation

Agency theory is structured around the nature of relationships within organisations, in terms of communications between a principal and an agent, in which the principal delegates work to the agent (Roth & O'Donnell 1996). The pursuit of innovative initiatives often involves an exposure to the possibility of outcomes involving loss (Goodale *et al.* 2010). Subsequently, the performance of employees attracted to a compensation plan may increase in relation to the incentive intensity of rewards, measured as the variable portion of pay (Ncube *et al.* 2013; Zenger & Marshall 2000). This means that marginal gains in income increase with higher incentive intensity of rewards and if increased effort has physical or psychological costs, employees will choose levels of effort such that the marginal gains from those efforts equal their marginal cost (Lerner *et al.* 2009). Therefore, pay plans that are more incentive intensive will drive employees to reach higher levels of effort and may also lure and keep talented employees in the organisation (Snelgar *et al.* 2013).

Hypothesis development

Encouraging employees to participate in venturing is not just a matter of financial utility maximisation, but instead non-outcome-based measures like pay risk, job risk and expectations of success also play a role in determining whether employees decide to participate in intrapreneurship activities or not. It is further noted that the positive relationship between profit sharing bonus (outcome-based) and employees' participation in venturing may be negatively moderated by job risk and pay risk, and positively moderated by an employee's expectation of success in the new venture (Moore & Bussin 2012; Monsen *et al.* 2009). In other words, it is important for job risk and pay risk to be low when using a profit sharing bonus to motivate employees to participate in venturing. These types of trade-offs can be achieved where job risk is decreased, for instance through flexible working hours, providing opportunities for growth and job enrichment (Wood & De Menezes 2011).

By drawing on these different theoretical perspectives, hypotheses are formulated in which actual and desired compensation practices are related to increased levels of intrapreneurial behaviour, which then builds on the premise that there is a contingency relationship between compensation practices that support corporate venturing. At the same time this relationship is moderated by the degree of risk or uncertainty associated with intrapreneurial behaviour (Hayton 2005; Monsen, Saxton & Patzelt 2007).

Hypothesis 1: There is a positive relationship between actual compensation practices and elevated intrapreneurial behaviour.

Hypothesis 2: There is a positive relationship between desired compensation practices and elevated intrapreneurial behaviour.

Hypothesis 3: The relationship between actual and desired compensation practices and elevated levels of intrapreneurial behaviour is moderated by the perceptions of risk control in the organisation.

Method

Research approach

This study was based on quantitative research design, adopting a cross-sectional and empirical approach using primary data sources. The research was both of a descriptive and explanatory nature in that the hypotheses were statistically tested. A research method involving a web-based self-reporting structured survey instrument was administered to a sample of employees at various companies in the greater Johannesburg area in South Africa.

Research design

Data collection and sampling

The first step in data collection was trying to identify samples of firms that exhibit intrapreneurship practices to various degrees (thus minimising the restriction of range problem within the sample). This was challenging as: (1) intrapreneurship strategies may not be robust in firms and (2) firms with highly entrepreneurial strategies may be few in number, as continuously employing entrepreneurial strategies may render these firms vulnerable to collapse (Ireland, Covin & Kuratko 2009). To counteract such sample identification challenges, a sample screen was relied upon focusing on firms with high rankings on industry reputational surveys regarding firm innovation-related matters over an extended period. One such listing is the 'Top 100 Companies' survey which showcases the prowess of South Africa's most successful organisations (Financial Mail 2010). This listing shows how organisations are judged according to how the firm uses technology and innovation to achieve objectives such as maximising profits, gaining market share, creating niche markets or adding value for stakeholders. Several other databases and listings that incorporate innovative organisations, such as the Johannesburg Chamber of Commerce and Industry (JCCI) (2011) and the database of the South Africa Business Guidebook (2009), served as sampling frames. Consistent with previous studies of a similar nature, the sample was composed of various corporate employees and managers (Monsen *et al.* 2007). At least ten permanent individual employees from entry level to managerial level per firm were surveyed using non-probability sampling. Initially 671 corporate employees were surveyed with a structured web-based instrument of which a final sample of 209 employees was obtained. Additionally, by adhering to Stevenson's (1983) view of entrepreneurship as a management approach relevant to many different types of firms, a diverse range of businesses was sampled.

The following sample characteristics emerged from this procedure: over half (56%) of the respondents were men, 62% were in the 26–40 year age group, almost all (89%) were in the entry level to managerial level group of employees, approximately three-quarters (78%) had spent five years or fewer in their current organisation, approximately two-thirds (68%) were in industries other than manufacturing, information technology and telecommunications (some of these other industries included banking, finance, mining and retail) and approximately two-thirds (69%) were in firms with 150 or more employees. Based on the relative heterogeneity of the different industry sectors sampled, the generalisability of the study is strengthened (Davidsson 2004).

Instruments

The research survey design was a self-reporting online closed questionnaire consisting of three separate sections measuring the concepts under study. Care was taken to ensure clarity in terminology and to ensure that the items of the questionnaire addressed each of the hypotheses.

Existing instruments were scrutinised for suitability and the following scales were used in this study:

- Items previously used by Miller and Friesen (1983) to measure risk-taking or aversion propensity; the original overall scale was found to possess an acceptable degree of reliability ($\alpha = 0.63$).
- Items originally used by Block and Ornati (1987) to measure actual and desired incentives for improved venture manager's performance, based on the satisfactory reliability when used in the Intrapreneurship Assessment Instrument (CEAI) ($\alpha = 0.73$) (Hornsby, Kuratko & Zahra 2002).
- Items originally used by Pearce, Kramer and Robbins (1997) to measure entrepreneurial behaviour by managers, as based on satisfactory reliability when used in the Intrapreneurship Assessment Instrument (CEAI) ($\alpha = 0.89$) (Hornsby *et al.* 2002).

Following the literature review, the study variables were operationalised as follows in terms of independent, dependent or moderator variables:

- Actual compensation practices (ACP) and desired compensation practices (DCP) = independent variables (IV). Examples of these questions included items such as: (1) variable bonuses based on return on investment of new venture formed from the intrapreneur's idea, (2) fixed bonuses for milestone achievement and (3) options in parent company equity.
- Elevated intrapreneurial behaviour (EIB) = dependent variable (DV). Examples of these questions included items such as: (1) I would get proposed actions through bureaucratic red tape and into practice efficiently and (2) I would display an enthusiasm for acquiring skills.
- Risk control (RC) = moderator or interaction variable. Examples of these questions included items such as: (1) In general, my department have a strong proclivity for low-risk projects, with normal and certain rates of return and

(2) In general, my department fosters and encourages a lesser level of business, financial and personal risk-taking.

Collectively, 44 items were used in a structured questionnaire in which responses were collected using a five-point Likert scale: 1 = 'strongly disagree' with the statement, whilst 5 = 'strongly agree'. Common method response bias was controlled for to some degree by safeguarding respondent anonymity, as well as ensuring that the questions relating to the dependent variables were located away from the independent and moderator variables in the instrument.

Prior to testing the study hypotheses, the scales were tested for reliability and validity. In order to ensure the instrument had face and content validity, a preliminary analysis via a pilot test was undertaken. This process allowed the researcher to refine the questionnaire design to maximise responses. Moreover, this procedure ensured that the respondents had no difficulties in answering the questions and there was no problem in recording the data. Having established content validity, a closer look at the instruments revealed that they were not actually dimensions measuring a construct; rather, they were instruments with a set of different compensation practices. Consequently, only instrument reliability was tested; a Cronbach's alpha value above 0.7 was considered adequate for internal consistency (Cooper & Schindler 2008). The different sections revealed the following values: actual compensation practices scale ($\alpha = 0.89$), desired compensation practices scale ($\alpha = 0.89$), elevated intrapreneurial behaviour scale ($\alpha = 0.89$) and risk control scale ($\alpha = 0.79$).

Research procedure

The survey was distributed using an online survey system, which was selected principally because of its functionality and ease of use. A personalised email accompanied each questionnaire, explaining the aim and objectives of the research and assuring the respondent of the confidentiality of their responses. A follow-up request was sent out approximately two weeks after the initial survey.

Data collection was conducted over a four-week period; 266 responses were received of which 57 were discarded because of incompleteness. This resulted in a final sample of 209 employees and a response rate of 31.15%. To test for non-response bias (Armstrong & Overton 1977), firm size, age and sales growth of responding firms were compared with non-responding firms, using secondary data obtained from a similar Technology Top 100 survey (Financial Mail 2010). Results of *t*-tests comparing the mean scores of the responding and non-responding firms revealed no differences ($p > 0.10$), suggesting that the sample appears to be representative of the population from which it was drawn.

Ethical issues were taken into consideration by ensuring that the instrument used posed no risk or danger to respondents. The study purpose and benefits to the sample population as well as the participant's rights and protection was made explicit and explained to the respondents at the start of the

data collection process. Moreover, full and open information (informed consent) was made available to respondents, to ensure that no form of deception and misrepresentation was used to extract information from the respondents and their privacy and confidentiality was respected at all times.

Statistical analysis

During data analysis, descriptive and inferential statistics were calculated using the STATISTICA software system, version 10 (StatSoft 2011). To check for differences between actual and desired compensation practices, *t*-tests for dependent or related groups were performed.

Canonical correlational analysis was carried out to test the hypotheses. This method is often used when researchers need to relate one set of variables to other sets of variables or when it is necessary to represent a large data set by several, easy-to-interpret variables (Lerner *et al.* 2009). With this method, the effects of key variables in one data set on all or several of the variables in the other sets can be easily identified. Several types of multivariate analyses exist and in the case of two or more data sets, canonical correlation analysis has been successfully used in previous research (Tishler *et al.* 1996). Canonical correlation analysis allows multiple measures to be summarised into variants or linear combinations of variables with weighting optimised, extracting maximum variance from the original measures (Hair *et al.* 2010).

Results

Descriptive statistics

Descriptive statistics were calculated for each of the sections of the instrument in terms of values of central tendency, variability and skewness. The summary statistics across items indicate that the values of the means and medians of all the scales are skewed towards the high end of the Likert scale, indicating agreement with the item. Thus the responses to these scales are generally positive or very positive, an observation consistent with the skewness of the scales. This suggests that employees perceive they will act in an intrapreneurial manner despite their concerns about danger and approval issues, in terms of risk control, which also reveals high mean scores across items.

To make further sense of the descriptive statistics, a *t*-test for dependent or related groups was performed to check for differences between actual and desired compensation practices. Table 1 reveals that there is a significant difference in all types of compensation practices when comparing mean scores of actual and desired compensation items. This suggests that these employees believe that there is a large gap between actual and desired compensation practices. For instance, the item 'incidence of options in new venture equity' was low in terms of actual practice (mean = 1.81), in contrast with its perceived desirability (mean = 4.00).

Hypothesis testing

To test Hypothesis 1, in terms of the expected relationship between ACP and EIB, canonical correlational analysis

TABLE 1: Mean score differences between actual versus desired compensation practices.

Type of compensation practices	Actual compensation practices				Desired compensation practices			
	Mean	SD	<i>t</i>	<i>p</i>	Mean	SD	<i>t</i>	<i>p</i>
Variable bonuses based on return on investment of new venture formed from the intrapreneur's idea	2.33	1.27	-15.65	0.000	4.08	0.91	-15.65	0.000
Fixed bonuses for milestone achievement	2.97	1.33	-9.86	0.000	4.02	1.01	-9.86	0.000
Options in parent company equity	2.10	1.30	-15.03	0.000	3.82	1.07	-15.03	0.000
Equity in parent company	2.03	1.18	-15.79	0.000	3.80	1.09	-15.79	0.000
Higher than normal salary	2.60	1.18	-14.77	0.000	4.14	0.99	-14.77	0.000
Equity in new venture formed from the intrapreneur's idea	1.81	1.05	-21.76	0.000	4.00	1.04	-21.76	0.000
Options in new venture equity	1.81	1.01	-22.45	0.000	4.00	0.94	-22.45	0.000
Variable bonuses for milestone achievement	2.66	1.27	-15.09	0.000	4.20	0.89	-15.09	0.000
Accelerated promotion	2.68	1.08	-15.43	0.000	4.19	0.93	-15.43	0.000
Motivation-based compensation	2.84	1.19	-12.22	0.000	4.13	0.98	-12.22	0.000
Job security	3.39	1.13	-6.16	0.000	3.99	1.09	-6.16	0.000
Flexible work hours	3.29	1.34	-7.63	0.000	4.16	1.02	-7.63	0.000
Opportunity for growth	3.54	1.05	-11.07	0.000	4.52	0.78	-11.07	0.000
Job enrichment	3.40	1.07	-10.67	0.000	4.41	0.81	-10.67	0.000
Praise and recognition	3.50	1.04	-9.56	0.000	4.39	0.95	-9.56	0.000
Dinner at a prestigious restaurant	2.51	1.20	-6.85	0.000	3.23	1.27	-6.85	0.000
Weekend at a hotel in South Africa or abroad	1.94	1.20	-14.15	0.000	3.36	1.30	-14.15	0.000

SD, standard deviation.

was carried out. The overall canonical *R*-value (0.58) was relatively substantial (StatSoft 2011) and highly significant ($p < 0.000$). This value was the simple correlation between the weighted sum scores in each set of variables, with the weights pertaining to the first (and most significant) canonical root. It is important to note that the maximum number of canonical roots that could be extracted was equal to the smallest number of variables in either set; thus, 17 canonical roots were extracted (Statsoft 2011). All 17 canonical roots extracted 100% of the variance from the left set (17 ACP items) and 97.00% of the variance in the right set (EIB items). The total redundancy for the ACP items was 11.75%, whilst that of the EIB items was 9.98%. Based on this result, only the first canonical root was considered significant and thus used in further analysis. For root factor 1, the variance extracted for ACP was 0.042, with a redundancy of 0.014; for EIB the variance extracted was 0.026 with a redundancy of 0.008. The second root was statistically non-significant and was excluded from further analysis. The results of the canonical correlational analysis are displayed in Table 2.

Additionally, canonical analysis included calculating the factor structures, which are referred to as canonical loadings or structure coefficients. For ACP nine items had low loadings on the first canonical factor, ranging from 0.02 to 0.26, whilst eight items had negative loadings, which means they had a very low correlation with this factor. The other seven ACP items revealed low loadings on the first canonical factor, ranging from 0.04 to 0.18, whilst 11 items had negative loadings, indicating a very low correlation with that factor. The first canonical root extracted an average of 4.00% of the variance from the ACP items and an average of 3.00% of the variance from the EIB items. Based on the set of EIB items, the first canonical root accounted for about 1.00% of the variance in the ACP items (redundancy). Based on the set of ACP items, the first canonical root accounted for about 0.90% of the variance in the EIB items. This set of results suggests that the set of ACP items were not predicting the set of EIB items; thus, Hypothesis 1 cannot be supported by the empirical evidence.

To examine Hypothesis 2 in terms of the relationship between DCP and EIB, the same procedure in terms of canonical analysis was carried out. The results are shown in Table 3. The overall canonical *R* (0.70) was quite substantial (StatSoft 2011) and highly significant ($p < 0.001$). All of the 17 extracted canonical roots extracted 100% of the variance from the left set (17 DCP items) and 97.00% of the variance in the right set (EIB items). The total redundancy for the DCP items was 21.08%, whilst that of the EIB items was 25.07%. This means that, based on all canonical roots and given the EIB items, 21.08% of the variance in the DCP was accounted for, whilst given the DCP items, 25.07% of the variance in the EIB was accounted for. These results reveal a poor but significant latent root and suggest a weak overall relationship between items in the two sets of variables.

In terms of factor structures, only the first canonical root was significant, and further examined. The items for EIB ranged from 0.10 to 0.79. The 12 items with the highest loadings ranged from 0.51 to 0.79. Of these 12 items, 11 were items measuring innovation and proactivity whilst one item measured risk. Therefore, innovation and proactivity are highly representative of EIB. The items for DCP had loadings ranging from 0.15 to 0.71. The seven items with the highest loadings were praise and recognition, motivation-based compensation, flexible work hours, job enrichment, variable bonuses for milestone achievement, accelerated promotion and opportunity for growth. These seven items correlated highly with the one factor. Of these seven items, six were all non-monetary compensation practices, suggesting that non-monetary compensation practices are the best predictors of the 11 items measuring innovation and proactivity, in terms of EIB. The first canonical root extracted an average of 20% of the variance from the DCP items and an average of 32% of the variance from the EIB items. These results translate into a significant canonical correlation (0.70) between the items in terms of DCP and EIB (based on the first canonical root). The set of items in the DCP variable that best predicted the 11 EIB items on innovation and proactivity were the non-monetary compensation practices. Thus, Hypothesis 2 cannot be fully supported due to a lack of empirical evidence.

TABLE 2: Hypothesis 1: Canonical analysis on actual compensation practices and elevated intrapreneurial behaviour.

Actual compensation practice	Root 1	Elevated intrapreneurial behaviour	Root 1
Job security	-0.02	Get proposed actions through red tape	-0.02
Higher than normal salary	-0.04	Take initiative for my own ideas	-0.03
Equity in parent company	-0.10	Show support for the good ideas of others	-0.04
Weekend at a hotel in South Africa or abroad	-0.11	First act and then ask for approval, even when I know that will annoy other people	-0.07
Equity in new venture formed from the intrapreneur's idea	-0.12	Get people to rally together to meet a challenge	-0.07
Options in parent company equity	-0.17	Search for a solution immediately when something goes wrong	-0.08
Options in new venture equity	-0.20	Often take risks in my job	-0.17
Flexible work hours	-0.44	Quickly change course of action when results are not being achieved	-0.18
Accelerated promotion	0.02	Actively attack pressing organisational problems	-0.19
Job enrichment	0.09	Unconcerned with danger	-0.31
Fixed bonuses for milestone achievement	0.11	Boldly move ahead with a promising new approach when others might be more cautious	-0.38
Praise and recognition	0.11	Regularly go for the big win even when things could seriously go wrong	0.04
Dinner at a prestigious restaurant	0.21	Willingly expose myself to situations with uncertain outcomes	0.07
Motivation-based compensation	0.23	Think about my work in new and stimulating ways	0.11
Opportunity for growth	0.23	Find ways to improve our products and services	0.13
Variable bonuses for milestone achievement	0.24	Use opportunities quickly in order to attain my goals	0.14
Variable bonuses based on return on investment of new venture formed from the intrapreneur's idea	0.26	Display an enthusiasm for acquiring skills	0.17
		Devote a great deal of effort to selling my ideas	0.18

TABLE 3: Hypothesis 2: Desired compensation practices and elevated intrapreneurial behaviour.

Desired compensation practice	Factor structure of root 1	Elevated intrapreneurial behaviour	Factor structure of root 1
Higher than normal salary	0.15	First act and then ask for approval, even when I know that will annoy other people	0.1
Equity in parent company	0.18	Unconcerned with danger	0.16
Fixed bonuses for milestone achievement	0.19	Willingly expose myself to situations with uncertain outcomes	0.19
Weekend at a hotel in South Africa or abroad	0.22	Get proposed actions through bureaucratic red tape	0.28
Dinner at a prestigious restaurant	0.26	Regularly go for the big win even when things could seriously go wrong	0.33
Variable bonuses based on ROI of new venture formed from the intrapreneur's idea	0.34	Find ways to improve our products and services	0.46
Options in new venture equity	0.36	Often take risks in my job	0.51
Job security	0.38	Boldly move ahead with a promising new approach when others might be more cautious	0.53
Options in parent company equity	0.46	Display an enthusiasm for acquiring skills	0.54
Equity in new venture formed from the intrapreneur's idea	0.49	Actively attack pressing organisational problems	0.59
Praise and recognition	0.51	Devote a great deal of effort to selling my ideas	0.61
Motivation-based compensation	0.52	Quickly change course of action when results are not being achieved	0.63
Flexible work hours	0.53	Think about my work in new and stimulating ways	0.69
Job enrichment	0.53	Show support for the good ideas of others	0.73
Variable bonuses for milestone achievement	0.61	Search for a solution immediately when something goes wrong	0.76
Accelerated promotion	0.64	Use opportunities quickly in order to attain my goals	0.77
Opportunity for growth	0.71	Take initiative for my own ideas	0.78
		Get people to rally together to meet a challenge	0.79

In terms of Hypothesis 3, to examine the potential moderating effect of risk control on the DCP-EIB relationship, a multiple regression procedure was executed incorporating the interaction term of 'Risk x DCP'. The first canonical roots of DCP served as the independent variable whilst the first canonical root of EIB served as the dependent variable. An interaction term was created for each respondent by multiplying the averages of the responses on the risk control scale with the corresponding first canonical roots of the DCP items. The following values were obtained based on this procedure: $R = 0.71$, $R^2 = 0.50$, adjusted $R = 0.49$ ($p < 0.000$), standard error of estimate = 0.71 and $F(2196) = 99.36$. Additionally, the summary results are shown in Table 4. These values indicate that 50.34% of the variation in the dependent variable (EIB) is attributable to variation across the desired compensation practices items. However,

the moderation effect of risk control was not statistically significant when risk control was used as a moderator. The p -value for the regression model was not statistically significant at $t(196) = -1.7093$ ($p > 0.050$), and suggest that it can be removed from the model. This means that risk control did moderate the DCP-EIB relationship. Consequently, Hypothesis 3 cannot be supported in terms of the empirical evidence.

Discussion

Based on the statistical analysis, the results reveal that gaps exist between employees' perception of the desired compensation practices and the actual compensation practices. In addition, the sample of respondents in this study seem to prefer mostly non-monetary compensation practices, such as job enrichment, opportunity for growth,

TABLE 4: Regression summary for dependent variable (elevated intrapreneurial behaviour 1st canonical root).

<i>N</i> = 199	<i>b</i> *	Standard error of <i>b</i> **	<i>b</i> *	Standard error of <i>b</i> **	<i>t</i> (196)	<i>p</i> -value
Intercept			0.01687	0.05129	0.32888	0.74260
DCP (1st canonical root)	1.12504	0.25124	1.12504	0.25124	4.47792	0.00001
Interaction term (risk x DCP)	-0.42945	0.25124	-0.12631	0.07389	-1.70932	0.08896

*, unstandardized coefficients; **, standardized coefficients.

flexible work hours, motivation-based compensation and accelerated promotion. Moreover, the main outcome-based compensation practice preferred by respondents was variable bonuses in terms of ‘milestone achievement’.

The findings emanating from this study resonate with similar research which showed that intrapreneurs prefer compensation practices that relate to the performance of the organisation as well as their individual performance (i.e. outcome-based compensation practices). This is an important finding considering that outcome-based compensation practices are necessary to promote the bearing of uncertainty and reduction of opportunism (Lerner *et al.* 2009). Consistent with agency theory, outcome-based compensation practices align the preferences of agents and principals because the rewards for both parties depend on the same actions. Moreover, the results of this study signify that employees prefer non-monetary compensation practices as well, which could be due to the organisations that were surveyed not having the means, ability or desire to compensate employees in a direct outcome-based compensation manner. It is also plausible that most organisations reserve outcome-based compensation practices for directors and executives who, for personal gains, might not be willing to share such benefits with lower level employees.

The results highlight that non-outcome-based measures like pay risk, job risk and expectations of success play a role in determining whether employees decide to be innovative or not. This finding resonates with Monsen *et al.*'s (2009) research which found that employees are reported to participate in intrapreneurial behaviour as a result of job risk and pay risk, and that employee's expectations are an important moderator. In other words, it is important for job risk and pay risk to be low when using profit sharing bonuses to motivate employees to participate in intrapreneurial behaviour.

The results confirm that opportunity for growth and job enrichment are strong predictors of elevated intrapreneurial behaviour. This finding is reflected in past studies that show that opportunity for growth and job enrichment are best fostered through on-the-job training to elevate intrapreneurial behaviour. Higher levels of internal knowledge sharing relate to stronger intrapreneurial behaviour, and such knowledge sharing in turn results from higher levels of trust and goal congruence (De Clercq, Dimov & Thongpapanl 2013). At the same time however, risk control has a strong positive moderating effect on the relationship between organisational boundaries and innovation performance, and a strong negative moderating effect on the relationship between time availability and innovation performance. The implication of this moderating effect is that desired compensation

practices are perhaps only one of the many organisational antecedents that can elevate intrapreneurial behaviour. Other organisational antecedents like organisational support, organisational boundaries and time availability are equally important to consider in stimulating intrapreneurial behaviour.

In summary, even though the empirical evidence emanating from this study did not support the hypotheses, the results are nonetheless revealing. Principally the findings indicate that implementing an intrapreneurship strategy in an organisation is quite challenging due to the failure to appreciate how risk control and other control variables work in conjunction with compensation and other organisational antecedents to facilitate elevated intrapreneurial behaviour. Compensation practices need to be connected to strategic objectives by formulating an appropriate mix of compensation types, whilst at the same time mitigating the degree of risk or uncertainty associated with intrapreneurial behaviour.

Implications

Essentially the results have contextual relevance: little is known about intrapreneurial behaviour or indeed intrapreneurship in emerging economies (Bruton, Ahlstrom & Obloj 2008). Emerging economies are characterised by rapid change and have an institutional and market environment quite different to those in Western economies (Antoncic & Hisrich 2001). Currently there is little knowledge on this topic emerging from an efficiency-driven economy like South Africa, which shows differences in innovative behaviour, risk profile, compensation practices and culture (Bosma, Stam & Wennekers 2010; Urban 2008). In the present day South African socio-economic milieu, compensation practices seem to be insufficient to motivate employees to behave intrapreneurially, especially if the degree of uncertainty in the corporate environment is taken into account. Many firms in emerging economies will need to focus on increased innovation in order to compete globally (Urban & Barreria 2010).

Relevant to emerging economies is that recent research finds that intrapreneurship and independent entrepreneurship seem to be substitutes at the macro level. Large firms in high-income countries tend to display more entrepreneurial behaviour than large firms in low-income countries do (Bosma *et al.* 2010). Indeed a tentative positive correlation between intrapreneurship and GDP per capita is possible. Thus, it appears that entrepreneurial activities by employees are, as predicted by theory, more prevalent as a country moves towards the more advanced phases of economic development. There is a need for further theorisation and

empirical analysis of how different contexts may influence intrapreneurial behaviour.

Considering that there has been a call for a considerable shift toward a more effective applied research agenda (Kenworthy & McMullan 2013), a multifaceted understanding of compensation practices in the intrapreneurship context is important not only for academic purposes but also because the subject has salience for practitioners and policy-makers. These implications relate to the profitability and competitiveness of the firm as well as to the overall economic performance of industry and the national economy. Businesses that incorporate innovation into their vision by relying on entrepreneurial strategies and actions understand that innovation is at the core of an entrepreneurial organisation. It is around this core that other elements of the organisation, such as strategy, management style and structure, are built.

The study also provides guidance to innovation specialists and company leaders interested in incentivising their employees to undertake intrapreneurial practices. Compensation practices can either be used as a tool to increase innovative activity or it can discourage innovative activity by rewarding non-salient behaviours. Due to the potential impact rewards have on intrapreneurial behaviour, it is necessary to design relevant compensation systems as part of organisational architecture in order to foster intrapreneurship. Additionally, the results provide direction to employees seeking to engage in intrapreneurship and provide them with a fair indication of what compensation practices they could expect, whilst considering commensurate risks. Considering that intrapreneurship is contingent upon individual members undertaking innovative activities (Hornsby *et al.* 2009), management must design incentive contracts that consider both the desired compensation practices and actual deterrents prohibiting intrapreneurial behaviour.

Limitations of study and future research

The present study strictly focused on compensation practices and risk factors but did not take into account different types of rewards, such as team rewards or organisation-level rewards and their potential influence on intrapreneurial behaviour. Based on the exploratory nature of this study, future studies need to be replicated with more fine-grained analysis of compensation practices. Moreover, due to the cross-sectional nature of the study, any causal relationship between compensation practices and intrapreneurial behaviour is not plausible. A longitudinal study is required to provide further insights into and causal inferences in the relationship between compensation practices and intrapreneurial levels. The representativeness of the sample is questionable, since no database of intrapreneurial firms exists in South Africa; furthermore, the selection criteria used for the present study merely serves as a starting point for sample selection. Additionally, in terms of its instrument design, the study relied on perceptual data which means data may have been contaminated by perceptual biases and cognitive limitations

of respondents. Lastly, as a result of using canonical analysis, when the number of variables in one of the data sets is high (as was the case in this study) the weightings obtained by canonical analysis may be unreliable (Tishler *et al.* 1996).

Much corporate entrepreneurship (CE) research focuses on large corporations yet small and medium enterprises may also involve scope for significant CE; future research could link compensation practices of these firms to intrapreneurial behaviour. Additionally, future research could try to unpack not only the nature of rewards but also how compensation systems need to be configured according to the industry life-cycle stage. Similarly, by focusing on specific contexts, differences in compensation practices may be revealed according to different sector types. For instance the high technology sector may require unique compensation practices, which could be identified as distinct for that particular sector. There is a need for further theorisation and empirical analysis of different types of organisations and sectors, as well as understanding how different contexts influence intrapreneurial behaviour through compensation practices. Similar organisations with similar compensation practices can have different effects in different contexts. Consequently, a need exists for a more subtle way to analyse how contextual variables differ in emerging economies and to what degree they shape intrapreneurial behaviours.

Conclusion

The study contributes to existing literature and extends current knowledge by investigating the relationship between desired and actual compensation practices and intrapreneurial behaviour, whilst also examining the degree of uncertainty and risk as moderators of this relationship. By focusing on how to elevate intrapreneurial behaviour, rather than merely researching whether corporate innovation is desirable or not, the study results have direct application to policy-makers and managers. By empirically researching actual and desired compensation practices, as well as deterrents prohibiting intrapreneurial behaviour, managers are able to better understand the contingency relationship between compensation practices and intrapreneurship.

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Competing interests

The authors declare that they have no financial or personal relationship(s) that may have inappropriately influenced them in writing this article.

Authors' contributions

U.O.M. (University of the Witwatersrand) was the project leader and prepared the survey and sample. B.U. (University of the Witwatersrand) made conceptual and methodological contributions and wrote the article.

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