

---

## Explaining employee innovative behaviour: a test of an integrative model

---

Uri Sternberg\* and Aviv Shoham

Graduate School of Management,  
University of Haifa, Israel  
Email: Uri.ste@gmail.com  
Email: ashoham@univ.haifa.ac.il  
\*Corresponding author

**Abstract:** The ability to innovate is crucial to the success of any organisation and it largely depends on employees' innovative behaviour. Yet, despite an emerging literature on this topic, there remain important knowledge gaps, which this study seeks to fill. Our study examines innovative behaviour in two contexts: at home and in the workplace. For this purpose, we provide an integrated overview of innovative behaviour, including its antecedents and its effects. Findings help clarify the relationship between innovative behaviour in the two contexts, both in general and with respect to its drivers and consequences. The core finding is that consumer innovative behaviour precedes employee innovative behaviour. We discuss the theoretical *and* practical implications of the findings.

**Keywords:** employee innovative behaviour; innovation; innovative behaviour; home-work conflict.

**Reference** to this paper should be made as follows: Sternberg, U. and Shoham, A. (2022) 'Explaining employee innovative behaviour: a test of an integrative model', *Int. J. Entrepreneurship and Innovation Management*, Vol. 26, Nos. 1/2, pp.60–84.

**Biographical notes:** Uri Sternberg holds a PhD from the Haifa University, in 2016. He is a Lecturer of Management at The Open University of Israel and The Jerusalem College of Technology – Lev Academic Center, Israel. His research focuses on innovative behaviour, entrepreneurship and education management. He holds a PhD in Management, MBA and a BA in Psychology.

Aviv Shoham holds a PhD from the University of Oregon, in 1993. He is a Full (Emeritus) Professor of Marketing at the School of Management at University of Haifa, Israel. He serves as a Visiting Full Professor at the Ljubljana University, Slovenia and Vaasa and Hanken Universities in Finland. His research focuses on international marketing management/strategy and international consumer behaviour.

This paper is a revised and expanded version of a paper entitled 'The relationship between innovative behavior as consumer and as employee' presented at Marketing in Israel International Conference, Israel, 28–30 December 2015.

## 1 Introduction

The word ‘innovation’ is derived from its Latin origin ‘innovare’, meaning ‘remake’. Today, it is used with a variety of meanings and in several fields of study. *Innovativeness personality trait* is defined as a characteristic that leads individuals to adopt new ideas (Midgley and Dowling, 1978; Mudd, 1990). We define *innovation* as individuals’ derived tendency to behave in a way consistent with their innovativeness trait (Hirschman, 1980; Midgley and Dowling, 1993; Mudd, 1990; Rogers, 1962, 1995). Notably, the relationship between trait innovativeness and innovative behaviour is highly complex involving several mediators and moderators (Hirschman, 1984; Midgley and Dowling, 1978; Raju, 1980).

Given that innovation is important as a major source for creating and preserving firms’ competitive advantages (Getz and Robinson, 2003; Steenkamp et al., 1999), managers are interested in understanding and promoting employees’ innovative behaviours (Dumaine, 1991; Imran et al., 2010). Early studies linked socio-demographic variables and innovativeness [e.g., men as more innovative than women and young people more than old (Tellis et al., 2009)]. However, socio-demographic – innovativeness relationships were found to be inconsistent (Steenkamp and Gielens, 2003; Venkatraman and Price, 1990), perhaps due to lack of agreement about innovativeness operationalisation (Tellis et al., 2009). Furthermore, such operational disagreements might have contributed inconsistencies regarding its impact on behaviour (Cotte and Wood, 2004; Eastlick and Lotz, 1999; Larsen and Oystein, 2005; Rogers, 1995; Steenkamp and Baumgartner, 1992; Yuan and Woodman, 2010).

We develop an integrative model linking antecedents of work and home-innovative behaviours. Thus, our study’s major contribution is in providing an examination of the relationships between innovative behaviour of individuals as employees *and* as consumers.

## 2 Literature review and hypotheses development

DiMaggio (1997) concluded that there is a gap between one’s behaviour at home and at the workplace. In contrast, recognising that innovative behaviour is driven mainly by an innovativeness trait, innovative behaviour should be consistent across settings (Larsen and Oystein, 2005; Mudd, 1990; Rogers, 1995). Thus, the two behavioural outcomes could be related but the nature of the relationship has remained elusive.

Our research focuses on understanding the degree of consistency of innovative behaviours at the workplace and at home. Would one enhance or reduce the other or do they just co-vary? To this end, we developed and tested a new integrative model, with innovative behaviours at the workplace and at home as two contexts. Below, we define the central building blocks of the model tested herein.

### 2.1 *Innovativeness as a personality trait*

Hurt et al. (1977, p.59) defined innovativeness as “a normally distributed underlying personality construct, which may be interpreted as a willingness to change.” Midgley and Dowling (1978) added to that definition the amount to which the individuals make innovative decisions regardless of their connection with others. Accordingly, we define

*innovativeness personality trait* as the personality tendency to experience changes and new things.

Rogers (1962) viewed innovativeness as a context-consistent personality trait. Hence, he dedicated a full chapter to the consistency of innovativeness. A somewhat different theory of innovativeness as a personality trait emerged parallel to Rogers' (1962) approach. According to this theory, the adoption of innovation is affected by a variety of personality traits (e.g., empathy, achievement motivation, dogmatism and intelligence) and sociological characteristics (e.g., social relationships, social character and cosmopolitanism). The adoption of innovation is impacted by individual characteristics, environment variables, and the amount of interest an individual has in the topic in question (Midgley and Dowling, 1978). According to both theories, innovativeness as a personality trait or adoption of innovations, are to anticipate and influence innovative behaviour.

## 2.2 *Risk-taking tendency*

*Risk-taking tendency* is defined here as a general personality trait, which leads to stable willingness to take risks across situations. It follows Keestan (1984, p.163), according to whom "risk-taking is an expression of personality traits that affect individuals beyond situational variables."

## 2.3 *Innovative behaviour*

*Innovative behaviour* is the adoption of new ideas earlier than others do (Rogers and Shoemaker, 1971). It refers to actions whose purpose is the development of, response to, and transformation of new ideas (Van de Ven, 1986). Tushman and Nadler (1986) identified two dimensions, namely the creation of new ideas and their distribution. In contrast, Leavitt and Walton (1975) described three dimensions, namely creative problem-solving, a search for original solutions to problems, and the willingness to accept changes (Hurt et al., 1977; Kirton, 1976). Regardless of its dimensional structure, high-innovativeness people have a natural tendency to embrace innovations (Rogers, 1995).

## 2.4 *Employee innovative behaviour*

Schumpeter (2008) viewed workplace innovation as the process by which workers create products, services, or processes. Given that innovations contribute to performance (Camison and Villar-Lopez, 2014), innovative organisations seek and implement new ideas and strive to promote innovative behaviour among employees (Dumaine, 1991; Imran et al., 2010).

*Employee innovative behaviour* refers to intentional efforts to improve, create, promote and implement new ideas (Janssen, 2000; Kanter, 1984; West and Farr, 1990). Employees' trait innovativeness should influence their workplace innovative behaviour possibly with intrinsic work motivation playing a mediation role (Chen et al., 2010). Ramamoorthy et al. (2005) theorised that employee innovative behaviour is indirectly affected by the adjustment of the employee expectations with different organisational variables through the mediation of the employee's commitment to be innovative in the workplace. Additional drivers of employees' innovative behaviour include the

relationships between the employees and their place of work (Ramamoorthy et al., 2005), the time of the employee at the organisation (Jones, 1986; Van Maanen and Schein, 1979) and organisational size (Acs and Audretsch, 1991; Ettl et al., 1984).

In sum, just as with any innovative behaviour, employee innovative behaviour is affected by an innovativeness personality trait. However, as presented above, other drivers exist (e.g., employee's perception of their workplace and managers, satisfaction with salaries, etc.). These influence innovative behaviour alongside the innovativeness personality trait. Employee innovative behaviour includes the creation, promotion, and implementation of new ideas for problem-solving and is valuable to organisations.

## 2.5 Consumer innovative behaviour

*Consumer innovative behaviour* is the tendency of consumers to purchase innovative products often and earlier than others do (Midgley and Dowling, 1978; Roehrich, 2004). In general, individuals' personality traits affect their consumer behaviour directly and through consumption behavioural tendencies (Hirsh and Dolderman, 2007). Studies documented that innovative consumers demonstrate desire to collect information on innovative products (Hirschman, 1980; Raju, 1980) and actively search for unique products (Lynn and Harris, 1997).

## 2.6 Relationship between work and home behaviours

Scholars have examined the way workplaces affect employees' innovative behaviour (Amabile, 1996; Hammond et al., 2011; Ramamoorthy et al., 2005; Scott and Bruce, 1994; Yuan, 2005; Yuan and Woodman, 2010). Fewer have examined how workplaces affect employees' innovative behaviour at home, as consumers. Similarly, studies have focused on families' influence on individuals' innovative behaviour at home (Cotte and Wood, 2004; Midgley and Dowling, 1978) but not at work. The relationship between individuals' innovative behaviour at work and at home is complex. Both are affected by similar variables, such as the trait innovativeness, risk-taking tendency, and individuals' past behaviour, as well as by distinct drivers. This research aims to present an integrative model combining multiple drivers of innovative behaviour, as will be shown in the following hypothesis development.

## 3 Hypothesis development

*Consistency theories* imply that people seek consistency between their attitudes, feelings and behaviour as a precursor to harmony and inner balance (Hawkins et al., 1997). Studies have indicated that trait innovativeness predicts innovative behaviour (Raju, 1980; Roehrich, 2004), though with varying strength (Cotte and Wood, 2004; Steenkamp and Baumgartner, 1992). Similar findings were obtained in relation to risk-taking tendency and innovative behaviour (Shannon and Mandhachitara, 2008; Sitkin and Weingart, 1995), which is considered an integral part of risk-taking tendency (Schumpeter, 2008). These findings fit consistency theories, which claim that people strive to avoid cognitive dissonance by matching behaviour with opinions and attitudes. Applied to this paper, it implies seeking a match between trait innovativeness and risk-taking tendency and innovative behaviour.  $H_1$  and  $H_3$  posit a positive relationship

between trait innovativeness and actual innovative behaviour. Previous studies have found trait innovativeness and consumer innovative behaviour to be related (Eastlick and Lotz, 1999; Fowall et al., 1998; Limayem et al., 2000; Schillewaert et al., 2005). H<sub>2</sub> and H<sub>4</sub> link risk-taking tendency and actual innovative behaviour based on consistency theory and empirical findings in support of this theory (Agarwal and Prasad, 1998; Kitchell, 1995; Larsen and Oystein, 2005; Shannon and Mandhachitara, 2008; Sitkin and Weingart, 1995; Spanos, 2009), Hence:

- H<sub>1</sub> Individuals' trait innovativeness is positively related to consumer innovative behaviour.
- H<sub>2</sub> Individuals' risk-taking tendency is positively related to consumer innovative behaviour.
- H<sub>3</sub> Employees' trait innovativeness is related positively with their employee innovative behaviour.
- H<sub>4</sub> Employees' risk-taking tendency is related positively with their employee innovative behaviour.
- H<sub>5</sub> The impact of trait innovativeness on consumer innovative behaviour will be similar to that on employee innovative behaviour.
- H<sub>6</sub> The impact of risk-taking tendency on consumer innovative behaviour will be similar to that on employee innovative behaviour.

H<sub>7</sub> deals with the relationship between people's innovative consumption and work behaviours. While employee and consumer-innovative behaviours are influenced by trait innovativeness, they could be influenced by additional social and situational factors. In other words, workplace and home behaviours can differ due to the effect of non-personality behavioural drivers (DiMaggio, 1997; Mischel, 1968; Wiggins, 1973). Since no a-priori justification exists about the relationship between individuals' innovative behaviour in the workplace and at home, the direction of the relationship is unclear. Hence, we form a non-directional hypothesis:

- H<sub>7</sub> There is a relationship between individuals' innovative behaviour as employees and as consumers.

The next hypotheses deal with antecedents of innovative behaviour beyond trait innovativeness and previous innovative behaviour. Support for creative behaviour and expected social impact and rewards predict actual creative behaviour and adoption of new products (Arnould, 1989; Fisher and Price, 1992; Madjar et al., 2002; Roehrich, 2004; Rogers, 1995; Venkatraman, 1991). Moschis (1987) showed that individuals' perceptions of their family affect behaviour; and Cotte and Wood (2004) found that individuals perceiving their parents and brothers as innovative become more innovative. Hence:

- H<sub>8</sub> Consumer innovative behaviour relates positively with the perception of the family as innovative.

A positive relationship between consumers' expectations of positive results of their innovative behaviour and actual innovative behaviour was reported (Gonul and Srinivasan, 1996; Oliver, 1980). Hence:

H<sub>9</sub> Consumer innovative behaviour relates positively with positive expectations from innovative behaviour at home.

Perception of the workplace as supporting innovation increase employees' innovative and creative behaviours (Bain et al., 2001; Carmeli and Schaubroeck, 2007; Kheng and Mahmood, 2013; Scott and Bruce, 1994; Siegel and Kaemmerer, 1978). Accordingly:

H<sub>10</sub> Employee's innovative behaviour relates positively with the perception of the workplace as support innovative behaviour.

Notably, creative and innovative behaviours are close constructs and have been used interchangeably in the literature (Ford, 1996). Thus, research reporting that creative behaviour has a positive relationship with employees' expectations of positive results of their creative behaviour (Tierney and Farmer, 2004). Therefore:

H<sub>11</sub> The employee's innovative behaviour relates positively with positive expectations from employee innovative behaviour.

H<sub>12</sub>–H<sub>15</sub> deal with additional outcomes of innovative behaviour. Since innovative behaviour is derived from a personality trait (Midgley and Dowling, 1978), its effect should be manifested in other areas relating to individuals' perception of themselves and how they are perceived by others following their innovative behaviour. Innovative behaviour reflects high consumer involvement. Therefore, according to consumer involvement theory (Rothschild, 1984), innovative behaviour should affect the level of concepts that fit high consumer involvement. These include market mavenship (Feick and Price, 1987; Goldsmith et al., 2003; Slama et al., 1992) and opinion leadership (Goldsmith et al., 2003; Goldsmith and Hofacker, 1991; Ruvio and Shoham, 2007) vis-à-vis consumption behaviours. Regarding employee behaviours, it should enhance job satisfaction (Bysted, 2013; Carmeli et al., 2006) and employee organisational commitment (Eisenberger et al., 1990).

H<sub>12</sub> Consumer innovative behaviour is positively related to market mavenship.

H<sub>13</sub> Consumer innovative behaviour relates positively with the degree of the person's being an opinion leader.

H<sub>14</sub> Employee innovative behaviour is related positively with job satisfaction.

H<sub>15</sub> Employee innovative behaviour is positively related to their organisational commitment.

Turning to the role of risk, existing knowledge among opinion leaders and market mavens indicates relationship with risk-taking (Chan and Misra, 1990; Ruvio and Shoham, 2007). Hence:

H<sub>16</sub> Risk-taking tendency is positively related to market mavenship.

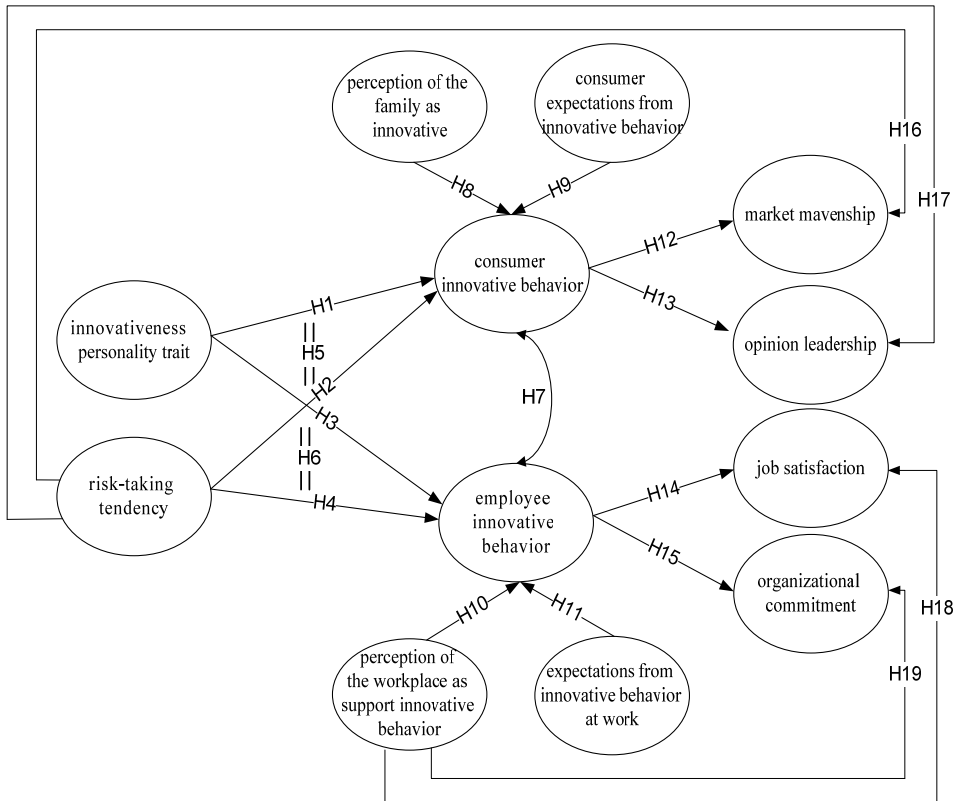
H<sub>17</sub> Risk-taking tendency is positively related to opinion leadership.

Even low levels of perceived organisational support were sufficient to make employees more involved in and committed to the organisation (Eisenberger et al., 1986). Applied to innovation, people's perception of their workplace as supportive of innovative behaviours enhanced their job satisfaction (Shalley et al., 2004) and organisational commitment (Siegel and Kaemmerer, 1978). Therefore:

- H<sub>18</sub> Employees’ perception of the workplace as supporting innovative behaviour is positively related to their job satisfaction.
- H<sub>19</sub> Employees’ perception of the workplace as supporting innovative behaviour is positively related to their organisational commitment.

In conclusion, this study was designed to test 19 hypotheses. The set of hypothesised relationships is depicted in the model in Figure 1.

**Figure 1** The final research model



#### 4 Method

With the aim of improving understanding of the relationships among the variables, two parallel research steps were carried out for triangulation purposes. A qualitative (using in-depth interviews) and a quantitative study (using structured questionnaires) were conducted. Our qualitative findings can add value to questionnaires-based quantitative research (DeRosia and Christensen, 2009).

Both studies were conducted in Israel with Israeli salespeople and marketing managers. The choice of this research population stemmed from the belief that the dual pressure exerted on these workers, as they are intermediate between management and

customers, would be expressed in their innovative behaviour in accordance with the various personality and environmental influences.

#### 4.1 Qualitative study

The qualitative phase involves conducting in-depth semi-structured interviews with 60 currently employed marketing managers and salespeople, from a variety of industries. About half of them are from the retail sector, in a variety of fields (computers, furniture, books, food and more), 15 are working for software companies and a similar number from service companies, and two participants come from the financial sector. Interviews of this type are particularly suitable when isolated interviews with each interviewee are held and when they are conducted continuously and not analysed on ongoing basis (Bernard, 1988). Each interview lasted about 30 minutes.

#### 4.2 Quantitative research

The quantitative part of the research was conducted using structured questionnaires, as detailed below. The questionnaire was distributed to a pre-test sample of 30 marketers and salespeople. After minor changes, the final questionnaire was used to collect data from 201 participants. The sample varied on positions, experience, ages and employing organisations' sizes.

##### 4.2.1 Questionnaire

The questionnaire consisted of scales used and validated in previous research. All scales used seven-point Likert items (1 = strongly disagree, 7 = strongly agree). The entire questionnaire included 78 items covering twelve scales.

**Table 1** Scales' reliability

<i>Scale</i>	<i>Cronbach's <math>\alpha</math></i>	<i>CR</i>	<i>AVE</i>
Innovativeness personality trait	.93	.93 (.01)	.59 (.03)
Risk-taking tendency	.84	.85 (.02)	.54 (.03)
Consumer innovative behaviour	.85	.83 (.02)	.56 (.04)
Employee innovative behaviour	.96	.95 (.01)	.70 (.03)
Market mavenship	.93	.93 (.01)	.68 (.03)
Opinion leadership	.97	.97 (.03)	.84 (.02)
Job satisfaction	.95	.95 (.01)	.80 (.02)
Organizational commitment	.94	.94 (.01)	.68 (.03)
Consumer expectations from innovative behaviour	.95	.95 (.01)	.87 (.02)
Expectations from innovative behaviour at work	.88	.88 (.02)	.71 (.03)
Perceptions of family as innovative	.88	.87 (.02)	.63 (.03)
Perception of the workplace as support innovative behaviour	.95	.95 (.01)	.73 (.02)

Note: Parentheses: standard errors

The following reliability indices were calculated for indicators and latent factors: Cronbach's alpha, composite reliability (CR) and average variance extracted (AVE). CR



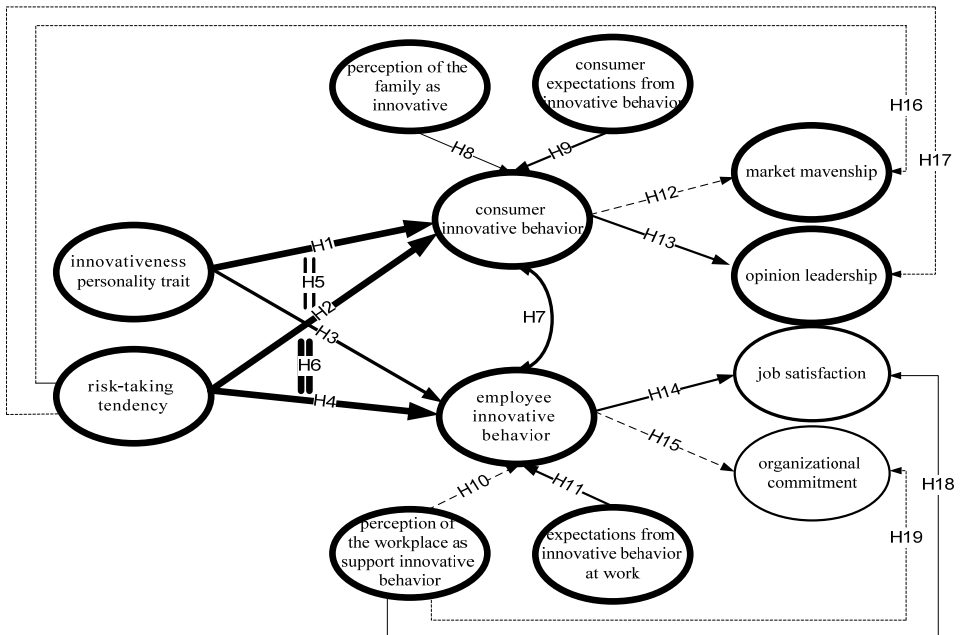
and AVE are based on the ratio between the latent variance, the loadings, and the total variance explained. The threshold for CR and  $\alpha$  is 0.7; it is 0.5 for AVE (Hair et al., 2010). Table 1 shows that the reliability of all scales used in the research is above the required criteria.

## 5 Findings and analysis

### 5.1 Qualitative research

Analysis of the interviews was conducted by one of the authors, followed by an assessment of the findings by the second co-author. The process involved an identification phase and an analysis phase. The former involved identifying the themes (corresponding to constructs) present in the interviews. Determining the importance of each theme was based its incidence in the sixty interviews and is shown graphically in Figure 2 by the weight of the lines. The second phase involved identifying the relationships among the themes. Here, too, the strength of the relationships is based on their incidence in the interviews and is shown graphically in Figure 2 by the weight of the arrows. The interviews provided some measure of support to the existence of all expected themes and relationships of the core model (innovativeness personality traits, risk-taking tendency, consumer innovative behaviour and employee innovative behaviour). The interviews supported strongly H<sub>1</sub>–H<sub>4</sub>, H<sub>6</sub> and H<sub>7</sub> with partial and/or weak support for all other hypotheses.

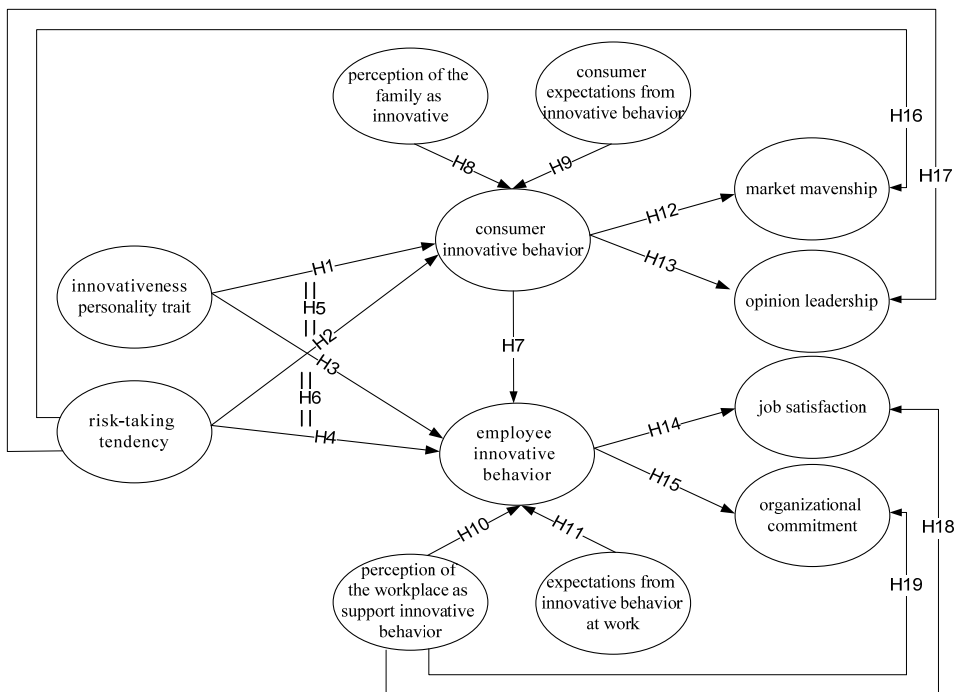
Figure 2 Qualitative research results



5.2 Quantitative research

The data was analysed using structural equation modelling (SEM). Three SEM analyses were conducted to examine the relationship between consumer innovative behaviour and employee innovative behaviour (H<sub>7</sub>) in the three different modes: a co-varying relationship between the two (Figure 1), consumer innovative behaviour influencing employee innovative behaviour (Figure 3), and employee innovative behaviour influencing consumer innovative behaviour (Figure 4). The three-model approach was used to identify the direction of influence between consumer and employee innovative behaviour which best explains the relationships among the variables in a holistic view. The fit statistics of the three SEM analyses appear in Table 2.

**Figure 3** Research model with consumer innovative behaviour influencing employee innovative behaviour



Since the three models are not nested, selecting the preferred model is carried out through a comparison between models' Bayesian indicator (BIC, Table 2). The model outlined in Figure 3 (consumer innovative behaviour → employee innovative behaviour) outperforms the other two models. Moreover, its fit statistics satisfy accepted standards ( $\chi^2 = 91.33$ , 36 degrees of freedom, SRMR = .076, CFI = .947, TLI = .903, IFI = .949). Table 3 presents the relationship among the variables as found in the SEM analysis of the model depicted in Figure 3. All hypothesised relationships except for H<sub>3</sub>, H<sub>4</sub> and H<sub>17</sub> were significant.

**Table 2** SEM results: fit statistics for the three models

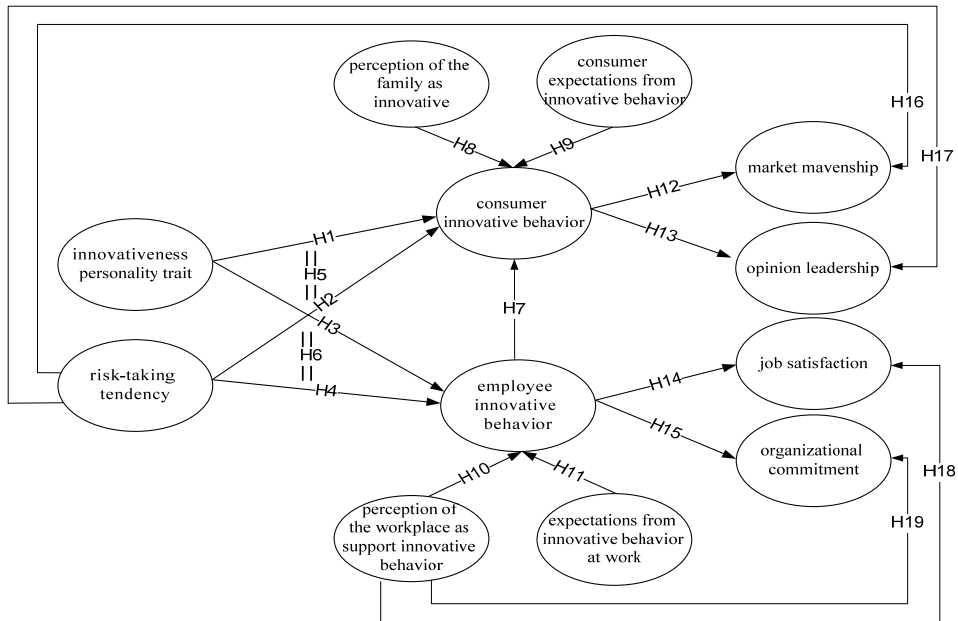
<i>Fit statistics</i>	<i>Covariant relationships between employee and consumer-innovative behaviour</i>	<i>Consumer innovative behaviour → employee innovative behaviour</i>	<i>Employee innovative behaviour → consumer innovative behaviour</i>
$\chi^2$ , degrees of freedom	97.539 36	91.33 36	93.806 36
$\chi^2$ /degrees of freedom	2.709	2.537	2.606
SRMR	.091	.076	.081
CFI	.941	.947	.945
TLI	.892	.903	.899
IFI	.943	.949	.946
BIC	7,825.697	7,819.488	7,821.964

**Table 3** SEM results for the relationship in the final research model and hypotheses (Figure 3)

<i>Relationship</i>	<i>z-value</i>	<i>Hypothesis</i>
Innovativeness personality trait → Consumer innovative behaviour	-.081	H <sub>1</sub>
Risk-taking tendency → Consumer innovative behaviour	.293**	H <sub>2</sub>
Consumer innovative behaviour → Employee innovative behaviour	.254**	H <sub>7</sub>
Perception of the family as innovative → Consumer innovative behaviour	.555**	H <sub>8</sub>
Consumer expectations from innovative behaviour → Consumer innovative behaviour	.214**	H <sub>9</sub>
Perception of the workplace as support innovative behaviour → Employee innovative behaviour	.102	H <sub>10</sub>
Expectations from innovative behaviour at work → Employee innovative behaviour	.597**	H <sub>11</sub>
Consumer innovative behaviour → Market mavenship	.896**	H <sub>12</sub>
Consumer innovative behaviour → Opinion leader	.506**	H <sub>13</sub>
Employee innovative behaviour → Job satisfaction	.138	H <sub>14</sub>
Employee innovative behaviour → Organisational commitment	.115	H <sub>15</sub>
Risk-taking tendency → Market mavenship	-.222*	H <sub>16</sub>
Perception of the workplace as support innovative behaviour → Job satisfaction	.643**	H <sub>18</sub>
Perception of the workplace as support innovative behaviour → Organisational commitment	.640**	H <sub>19</sub>

Note: \* $p \leq 0.05$  and \*\* $p \leq 0.01$ .

**Figure 4** Research model with employee innovative behaviour influencing consumer innovative behaviour



## 6 Discussion

Table 4 shows the results of the two methodologies. Importantly, most qualitative research findings were consistent with those of the quantitative research. The discussion below addresses the common and different findings of the qualitative and quantitative studies.

Three hypotheses dealt with the positive impact of the innovativeness personality trait on consumer and employee innovative behaviour (H<sub>1</sub>, H<sub>3</sub> and H<sub>5</sub>). While the qualitative study found medium or strong support for H<sub>3</sub> and H<sub>5</sub> (Figure 2), the quantitative research did not support them (Table 3).

Notably, our finding of an *inverse* relationship between trait innovativeness and consumer innovative behaviour contradicts the literature (e.g., Raju, 1980; Roehrich, 2004). While the literature on this relationship is not wholly consistent, no reversed relationships have been reported. Moreover, the present quantitative finding is weak ( $p \leq 0.1$ ,  $z$ -value =  $-0.081$ ). Hence, we believe that the qualitative results are indicative of the true relationship and accept H<sub>1</sub> (strong support) and H<sub>3</sub> and H<sub>5</sub> (moderate to strong support).

H<sub>2</sub>, H<sub>4</sub> and H<sub>6</sub> focused on risk-taking tendency. For these hypotheses, differences between the results of the qualitative and quantitative research were minor. The small differences can be attributed to methodological issues arising from the different nature of the two research methodologies.

Notably, the findings reported for H<sub>5</sub> extend our understanding of trait innovativeness in that its effect on consumer innovative behaviour is similar to that of its effect on

employee innovative behaviour. Importantly, to the best of our knowledge, the current study shows for the first time that risk-taking tendencies affect consumer and employee innovative behaviour similarly (H<sub>6</sub>).

**Table 4** Results of the two studies

<i>Hypothesis</i>	<i>Qualitative research</i>	<i>Quantitative research</i>
H <sub>1</sub>	Strong	NS
H <sub>2</sub>	Strong	Medium
H <sub>3</sub>	Medium	NS
H <sub>4</sub>	Strong	Weak, only indirect
H <sub>5</sub>	Medium	Rejected
H <sub>6</sub>	Strong	NS
H <sub>7</sub>	Strong	Medium
H <sub>8</sub>	Weak	Strong
H <sub>9</sub>	Medium	Medium
H <sub>10</sub>	NS	Weak
H <sub>11</sub>	Medium	Strong
H <sub>12</sub>	NS	Strong
H <sub>13</sub>	Medium	Strong
H <sub>14</sub>	Medium	Weak
H <sub>15</sub>	NS	Weak
H <sub>16</sub>	NS	Medium, reverse, direct; medium, indirect
H <sub>17</sub>	NS	Medium, combined direct and indirect
H <sub>18</sub>	Weak	Strong
H <sub>19</sub>	NS	Strong

Note: NS – no support.

A comparison of the results for Hypotheses 1, 3 and 5 (trait innovativeness) and those for Hypotheses 2, 4 and 6 (risk-taking tendency) generates interesting insights, especially given that based on the literature, we should expect to see similar results. The findings clearly suggest that trait innovativeness has a stronger impact on *consumer* innovative behaviour (as compared with risk-taking tendency), while risk-taking tendency have more influence on *employee* innovative behaviour (as compared with trait innovativeness). Two quotations from different interviewees serve to illustrate the point. “[In the context of innovative behavior] you can’t bring your own personality to work, because it poses a risk, and it’s not for everyone.” Additionally, “In order to behave here [at work] in an innovative way you have to be one who is willing to take risks.”

H<sub>7</sub>, dealing with the relationship between consumer and employee innovative behaviour, was at the core of the current research. Literature reveals the existence of this relationship but could not explain its direction. Unexpectedly, the data show a strong influence of consumer innovative behaviour on employee innovative behaviour. Not only is the current finding contrary to the longstanding assumption that employee behaviour is more likely to influence consumer behaviour than the other way around (Kossek and Ozeki, 1998; Wayne et al., 2004); it even negates the newer idea, based on spillover theory, that the relationship is bidirectional (Kirchmeyer, 1992). Two possible

explanations arise from the qualitative data. First, it may be that cultural factors were at play. Here, we draw on Hofstede's (1983) dimensions of national culture to help explain differences in the behaviour or attitudes of people from different countries. Hofstede's system is well established as a tool for understanding differences across countries, including in the realm of innovation (Efrat, 2014). Two relevant dimensions are power distance and uncertainty avoidance. Israel, where the present research was conducted, scores low in power distance (13), meaning that Israelis tend to place little emphasis on formal hierarchies of power or status. At the same time, Israel scores high in uncertainty avoidance (81), meaning that Israelis tend to have low tolerance towards uncertainty and ambiguity (Hofstede, 1983). Previous research found low power distance to encourage innovation (Shane et al., 1995), while high uncertainty avoidance has been found to have an inverse relationship with innovative behaviour (Egbue and Long, 2012). Several statements made by interviewees in the qualitative phase of the research suggest that Israelis' high uncertainty avoidance and low power distance may help explain why in Israel, consumer innovative behaviour tends to influence employee innovative behaviour and not the other way around. More precisely, several statements suggest, first, that Israelis like to try out new technologies and behaviours at home before bringing them into the workplace (high uncertainty avoidance), and second, that they feel comfortable introducing new ideas and technologies to their work managers (low power distance). The second possible explanation draws on the theory of perceived attributes presented by Rogers (2003). This theory holds that consumer innovative behaviour is influenced, among other attributes, by the innovation's *trial-ability* – that is, “the degree to which an innovation may be experimented with on a limited basis” [Rogers, (2003), p.258] before it is applied to the situation where it is needed. Just as trying out an innovative product may help consumers decide whether to purchase the product for long-term use, individuals may also trial new products at home before introducing them to the workplace.

Within the next few hypotheses, two antecedents were examined for each situation: the perception of the family/workplace as innovative/supportive of innovative behaviour ( $H_8$  and  $H_{10}$ ), and positive expectations from innovative behaviour at home/work ( $H_9$  and  $H_{11}$ ).  $H_8$ – $H_{11}$  are based on well-known and empirically substantiated theories, as discussed earlier. As expected,  $H_9$  and  $H_{11}$  showed strong positive effect of expectations from innovative behaviour. The findings support the emerging literature on this relationship within the field of innovative behaviour (Haslam et al., 2010; Yuan, 2005).

Regarding  $H_8$  and  $H_{10}$ , the findings of the two studies were inconsistent. In the qualitative research,  $H_8$  was supported weakly and  $H_{10}$  was refuted, while in the quantitative research,  $H_8$  was supported strongly and  $H_{10}$  weakly. In-depth re-analysis of the qualitative data suggests that the semi-structured nature of the interviews could partially explain these surprising findings. It appears that the effect of the family or workplace environment in promoting innovative behaviour was largely overlooked, creating the appearance of a weak or non-existent relationship. In view of this methodological difficulty, and in light of the findings of previous studies, it seems appropriate to accept, in this case, the findings of the *quantitative* study. We therefore conclude that, in accordance with the  $H_8$ , a perception of the surrounding environment as fostering or even just open to innovative behaviour is indeed related with such behaviour in practice at home. Regarding this behaviour in the workplace ( $H_{10}$ ), the quantitative research found no relationship. In-depth analysis of the data collected in the qualitative research suggests that the semi-structured nature of the interviews may be partly to blame

for these surprising findings. The interview strategy was chosen to enable participants to raise themes and relationships that otherwise might have been neglected. However, in this case, it appears that the effect of the family or workplace environment in promoting innovative behaviour was largely overlooked, creating the appearance of a weak or non-existent relationship. In view of this methodological difficulty, and in light of the findings of previous studies as presented in the literature review, it seems appropriate to accept, in this case, the findings of the quantitative research.

Innovative behaviour is known as an antecedent of other concepts, to which we turn in H<sub>12</sub>–H<sub>15</sub>. Here, too, the findings of the qualitative and quantitative research differed. In-depth analysis of the qualitative data suggests that again, as with H<sub>8</sub>–H<sub>11</sub>, methodological concerns related to the use of semi-structured interviews explain the pattern of findings. With this in mind, we believe that quantitative data should dominate.

Based on the quantitative results, strong support was found for H<sub>12</sub> and H<sub>13</sub>. However, relationships between employee innovative behaviour and job satisfaction (H<sub>14</sub>) and organisational commitment (H<sub>15</sub>) were not significant. Re-examination of the literature revealed complexities of these relationships. For instance, employee innovative behaviour and job satisfaction have been related through the mediation of other variables, such as wages, organisational perceptions of the employee's value and job tenure (Smith et al., 1969). However, no examination of the *direct relationship* between employee innovative behaviour and job satisfaction has been reported. The present finding can therefore be regarded as preliminary, and as providing an important contribution to our understanding of these concepts.

In this regard, it is noteworthy that the quantitative analysis identified only a weak relationship between these variables. At least one statement by a participant in our qualitative study may shed light on this issue. "While it's fun to behave that way (i.e., in an innovative way) at work, it affects [my] overall satisfaction from work just a little bit." This finding – i.e., that employee innovative behaviour only weakly affects job satisfaction – is particularly interesting in light of the importance of job satisfaction for both managers and employees.

Research into the relationship between employee innovative behaviour and organisational commitment (H<sub>15</sub>) is limited. Hence, the present findings make an important contribution to the literature.

Despite the expected positive relationship (H<sub>16</sub>), the relationship we reported is *reversed* and of moderate strength. Re-analysing the quantitative data for an indirect relationship through the mediation of consumer innovative behaviour was positive and of moderate strength, in accordance with H<sub>16</sub>. In light of this, it appears that our data are insufficient to test H<sub>16</sub>, which remains an important issue for further study.

The hypothesised relationship between a risk-taking tendency and opinion leadership (H<sub>17</sub>) was not supported by the qualitative nor the quantitative study. While the methodological problems described above may explain the (lack of) qualitative findings, it is unclear why no such relationship was found in the quantitative research. This result, too, awaits further research.

As expected, in the current study, strong support was found for H<sub>18</sub>–H<sub>19</sub>. Notably, although the findings for H<sub>18</sub> and H<sub>19</sub> are not surprising in themselves, evaluating them in light of the findings for H<sub>14</sub>–H<sub>15</sub> raises an important insight. It is not objective reality, which influences job satisfaction, organisational commitment, and similar outcomes; rather, it is how the employees perceive this reality. Thus, a workplace, which is perceived as innovative by employees, will affect such outcomes, regardless of the actual

extent of innovative behaviour. This insight has important managerial implications, as discussed in the next section.

Before closing, it should be noted that the qualitative research raised an additional theme, which was not included in the research model. Consider the following examples: "I'm an innovator – I have an entrepreneurial spirit." "I would like to be innovative at work, and for the same reason I initiate new things... I'm the entrepreneur of my team." "There is no real difference between entrepreneurship and innovation, because you cannot be one without being the other." These examples serve to illustrate a trend. Indeed, the interviewed participants often used the words entrepreneurship and innovation interchangeably. Speculatively, the model used here for innovation can be used fruitfully for entrepreneurship as well. This possibility awaits examination in future research.

## 7 Conclusions

In today's world, an ability to innovate is crucial to the success of any organisation. Yet despite a rich emerging literature on this topic, gaps in knowledge have persisted.

Our two studies attempted to fill these gaps by examining innovative behaviour in two contexts: at home and in the workplace. To our best knowledge, our studies are the first to link innovative behaviours in the consumer and work realms in parallel. They sought to provide a comprehensive overview of innovative behaviour, including its antecedents and its effects, by examining 19 hypotheses.

The present research helps clarify the relationship between innovative behaviours in the two contexts, both in general and with respect to its drivers and consequences. The core finding, and this study's most novel contribution to the literature, is that consumer innovative behaviour exerts a strong influence on employee innovative behaviour. This finding, along with the other findings outlined and discussed above, make important theoretical and practical contributions.

### 7.1 Implications for practice

The present findings fall into three general categories: individual-level antecedents of innovative behaviour, environmental antecedents of innovative behaviour, and outcomes of innovative behaviour. Together, these three sets of findings have number of implications for managers. For example, understanding the drivers of innovative behaviour in the consumer realm can help marketing managers target opinion leaders. In the work realm, understanding these drivers can help human resource managers seeking to promote innovative behaviour, job satisfaction, and organisational commitment among employees. Below, the authors discuss key findings from all three categories.

With respect to the individual drivers, one notable finding is that the innovativeness personality trait affected innovative consumption and work behaviours similarly. This is interesting, as studies of survey response bias have shown that responses to indirect questions tend to be more reliable than responses to direct questions. Thus, managers seeking to identify trait innovativeness among either consumers or potential employees can improve the accuracy of their survey tools or interview process by asking questions about the other context (i.e., the consumer realm for potential employees and the work realm for consumers).



Also notable is the finding that trait innovativeness has a stronger effect on consumer innovative behaviour compared with risk-taking tendency, while risk-taking tendency have a greater effect on employee innovative behaviour. Consequently, marketing managers are advised to segment consumers according to their levels of trait innovativeness, and to design their marketing mix accordingly. In contrast, employers seeking to increase employee innovative behaviour should seek to recruit and encourage employees based on their risk-taking tendency.

With respect to the environmental variables, the findings underscore the importance of a receptive environment within the family, and a supportive environment at work, as a means of encouraging innovative behaviour. Within the consumer sphere, sales and marketing managers should explore new and effective ways to exploit this effect – for example, by using ‘advertorials’ (advertising in editorial form) to foster an attitude of openness to innovation in general, as well as to promote specific innovative products. In the workplace, managers should consider whether the culture of the firm or unit promotes innovative behaviour among employees, and institute practices to change that culture if it does not. For instance, are employees rewarded for coming up with new ideas, even if those ideas are ultimately not implemented? Are employees encouraged to present their ideas to senior managers? Do managers make it known that ideas and suggestions are welcomed? These points are particularly important given that a perception of the workplace as supporting innovative behaviour influences not only the degree to which employees feel free to innovate, but also their job satisfaction and organisational commitment – both of which play key roles in improving productivity, reducing turnover, and other positive firm outcomes.

Regarding innovative behaviour’s outcomes, a similar process is at work, only in reverse. Just as recognising innovative behaviour’s antecedents can help managers single out potentially innovative consumers or employees, so too can recognising the outcomes of innovative behaviour. For example, in a well-functioning firm, employees who display high levels of job satisfaction and organisational commitment are likely to be its most innovative employees. Naturally, this equation is not perfect: some workers, who are not innovative, will also be highly satisfied with their jobs and highly committed to the organisation. However, levels of the outcome variables may comprise a useful source of information. In addition, as discussed above, managers may improve the accuracy of the information they gather by taking an indirect route, for instance by including in consumer surveys questions about respondent’s job satisfaction, or by asking potential new hires about their knowledge and general inquisitiveness in the consumer realm.

## References

- Acs, Z.J. and Audretsch, D.B. (1991) ‘R&D, firm size and innovative activity’, in Acs, Z.J. and Audretsch, D.B. (Eds.): *Innovation and Technological Change: An International Comparison*, Harvester Wheatsheaf, New York.
- Agarwal, R. and Prasad, J. (1998) ‘A conceptual and operational definition of personal innovativeness in the domain of information technology’, *Information Systems Research*, Vol. 9, No. 2, pp.204–215.
- Amabile, T.M. (1996) *Creativity in Context: Update to the Social Psychology of Creativity*, Westview Press, Boulder, CO.

- Arnould, E.J. (1989) 'Toward a broadened theory of preference formation and the diffusion of innovations – cases from Zinder-Province, Niger-Republic', *Journal of Consumer Research*, Vol. 16, No. 2, pp.239–267.
- Bain, P.G., Mann, L. and Pirola-Merlo, A. (2001) 'The innovation imperative: the relationships between team climate, innovation, and performance in research and development teams', *Small Group Research*, Vol. 32, No. 1, pp.55–73.
- Bernard, H.R. (1988) *Research Methods in Cultural Anthropology*, Sage, Newbury Park, CA.
- Bysted, R. (2013) 'Innovative employee behavior: the moderating effects of mental involvement and job satisfaction on contextual variables', *European Journal of Innovation Management*, Vol. 16, No. 3, pp.268–284.
- Camison, C. and Villar-Lopez, A. (2014) 'Organizational innovation as an enabler of technological innovation capabilities and firm performance', *Journal of Business Research*, Vol. 67, No. 1, pp.2891–2902.
- Carmeli, A. and Schaubroeck, J. (2007) 'The influence of leaders' and other referents' normative expectations on individual involvement in creative work', *The Leadership Quarterly*, Vol. 18, No. 1, pp.35–48.
- Carmeli, A., Meitar, R. and Weisberg, J. (2006) 'Self-leadership skills and innovative behavior at work', *International Journal of Manpower*, Vol. 27, No. 1, pp.75–90.
- Chan, K.K. and Misra, S. (1990) 'Characteristics of the opinion leader: a new dimension', *Journal of Advertising*, Vol. 19, No. 3, pp.53–60.
- Chen, S-C., Wu, M-C. and Chen, C-H. (2010) 'Employee's personality traits, work motivation and innovative behavior in marine tourism industry', *Journal of Service Science and Management*, Vol. 3, No. 2, pp.198–205.
- Cotte, J. and Wood, S.L. (2004) 'Families and innovative consumer behavior: a triadic analysis of sibling and parental influence', *Journal of Consumer Research*, Vol. 31, No. 1, pp.78–86.
- DeRosia, E.D. and Christensen, G.L. (2009) 'Blind insights: a new technique for testing a priori hypotheses with qualitative methods', *Qualitative Market Research: An International Journal*, Vol. 12, No. 1, pp.15–35.
- DiMaggio, P. (1997) 'Culture and cognition', *Annual Review of Sociology*, Vol. 23, No. 1, pp.263–288.
- Dumaine, B. (1991) 'Closing the innovation gap', *Fortune*, Vol. 124, No. 13, pp.56–62.
- Eastlick, M.A. and Lotz, S. (1999) 'Profiling potential adopters and non-adopters of an interactive electronic shopping medium', *International Journal of Retail and Distribution Management*, Vol. 27, No. 6, pp.209–223.
- Efrat, K. (2014) 'The direct and indirect impact of culture on innovation', *Technovation*, Vol. 34, No. 1, pp.12–20.
- Egbue, O. and Long, S. (2012) 'Barriers to widespread adoption of electric vehicles: an analysis of consumer attitudes and perceptions', *Energy Policy*, Vol. 48, No. 9, pp.717–729.
- Eisenberger, R., Fasolo, P. and Davis-LaMastro, V. (1990) 'Perceived organizational support and employee diligence, commitment, and innovation', *Journal of Applied Psychology*, Vol. 75, No. 1, pp.51–59.
- Eisenberger, R., Huntington, R., Hutchison, S. and Sowa, D. (1986) 'Perceived organizational support', *Journal of Applied Psychology*, Vol. 71, No. 3, pp.500–507.
- Ettlie, J.E., Bridges, W.P. and O'Keefe, R.D. (1984) 'Organization strategy and structural differences for radical versus incremental innovation', *Management Science*, Vol. 30, No. 6, pp.682–695.
- Feick, L.F. and Price, L.L. (1987) 'The market maven: a diffuser of marketplace information', *Journal of Marketing*, Vol. 51, No. 1, pp.83–97.
- Fisher, R.J. and Price, L.L. (1992) 'An investigation into the social-context of early adoption behavior', *Journal of Consumer Research*, Vol. 19, No. 3, pp.477–486.

- Ford, C.M. (1996) 'A theory of individual creative action in multiple social domains', *Academy of Management Review*, Vol. 21, No. 4, pp.1112–1142.
- Fowall, G.R., Goldsmith, R.E. and Brown, S. (1998) *Consumer Psychology for Marketing*, International Thomson Business Press, London.
- Getz, I. and Robinson, A.G. (2003) 'Innovate or die: is that a fact?', *Creativity Innovation Manage*, Vol. 12, No. 3, pp.130–136.
- Goldsmith, R.E. and Hofacker, C.F. (1991) 'Measuring consumer innovativeness', *Journal of the Academy of Marketing Science*, Vol. 19, No. 3, pp.209–221.
- Goldsmith, R.E., Flynn, L.R. and Goldsmith, E.B. (2003) 'Innovative consumers and market mavens', *Journal of Marketing theory and Practice*, Vol. 11, No. 4, pp.54–65.
- Gonul, F. and Srinivasan, K. (1996) 'Estimating the impact of consumer expectations of coupons on purchase behavior: a dynamic structural model', *Marketing Science*, Vol. 15, No. 3, pp.262–279.
- Hair, J.F., Black, W.C., Babin, B.J. and Anderson, R.E. (2010) *Multivariate Data Analysis*, 7th ed., Prentice-Hall, Inc., Upper Saddle River, NJ, USA.
- Hammond, M.M., Neff, N.L., Farr, J.L., Schwall, A.R. and Zhao, X. (2011) 'Predictors of individual level innovation at work: a meta-analysis', *The Psychology of Aesthetics, Creativity, and the Arts*, Vol. 5, No. 1, pp.90–105.
- Haslam, C., Haslam, S.A., Jolanda, J., Adam, B., Ravenscroft, S. and Tonks, J. (2010) 'The social treatment: the benefits of group interventions in residential care settings', *Psychology and Aging*, Vol. 25, No. 1, pp.157–167.
- Hawkins, D.I., Best, R.J. and Coney, K.A. (1997) *Consumer Behavior*, Irwin, Chicago.
- Hirschman, E.C. (1980) 'Innovativeness, novelty seeking and consumer creativity', *Journal of Consumer Research*, Vol. 7, No. 3, pp.283–295.
- Hirschman, E.C. (1984) 'Experience seeking: a subjectivist perspective of consumption', *Journal of Business Research*, Vol. 12, No. 1, pp.115–136.
- Hirsh, J.B. and Dolderman, D. (2007) 'Personality predictors of consumerism and environmentalism: a preliminary study', *Personality and Individual Differences*, Vol. 43, No. 6, pp.1583–1593.
- Hofstede, G.H. (1983) 'National cultures in four dimensions: a research-based theory of cultural differences among nations', *International Studies of Management and Organization*, Vol. 13, Nos. 1–2, pp.46–74.
- Hurt, H.T., Joseph, K. and Cook, C.D. (1977) 'Scales for the measurement of innovativeness', *Human Communication Research*, Vol. 4, No. 1, pp.58–65.
- Imran, R., Saeed, T., Anis-ul-Haq, M. and Fatima, A. (2010) 'Organizational climate as a predictor of innovative work behavior', *African Journal of Business Management*, Vol. 4, No. 15, pp.3337–3343.
- Janssen, O. (2000) 'Job demands, perceptions of EVort – reward fairness and innovative work behavior', *Journal of Occupational and Organizational Psychology*, Vol. 73, No. 3, pp.287–302.
- Jones, G.R. (1986) 'Socialization tactics, self-efficacy, and newcomers' adjustments to organizations', *Academy of Management Journal*, Vol. 29, No. 2, pp.262–279.
- Kanter, R.M. (1984) 'The change masters', *Training and Development Journal*, Vol. 38, No. 4, pp.39–43.
- Keeston, G. (1984) 'Measurement of risk takers' personality', *Psychological Reports*, Vol. 55, No. 1, pp.163–167.
- Kheng, Y.K. and Mahmood, R. (2013) 'The relationship between pro-innovation organizational climate, leader-member exchange and innovative work behavior: a study among the knowledge workers of the knowledge intensive business services in Malaysia', *Business Management Dynamics*, Vol. 2, No. 8, pp.15–30.

- Kirchmeyer, C. (1992) 'Nonwork-to-work spillover: a more balanced view of the experiences and coping of professional men and women', *Sex Roles*, Vol. 28, Nos. 9–10, pp.531–552.
- Kirton, M. (1976) 'Adaptors and innovators: a description and measure', *Journal of Applied Psychology*, Vol. 61, No. 5, pp.622–629.
- Kitchell, S. (1995) 'Corporate culture, environmental adaptation, and innovation adoption: a qualitative/quantitative approach', *Journal of the Academy of Marketing Science*, Vol. 23, No. 3, pp.195–205.
- Kossek, E.E. and Ozeki, C. (1998) 'Work-family conflict, policies, and the job-life satisfaction relationship: a review and directions for organizational behaviour-human resources research', *Journal of Applied Psychology*, Vol. 83, No. 2, pp.139–149.
- Larsen, T.J. and Oystein, S. (2005) 'Impact of personal innovativeness on the use of the internet among employees at work', *Journal of Organizational and End User Computing*, Vol. 17, No. 2, pp.43–63.
- Leavitt, C. and Walton, J. (1975) 'Development of a scale for innovativeness', in Schlinger, M.J. (Ed.): *Advances in Consumer Research*, Vol. 2, pp.545–554, Association for Consumer Research, Ann Arbor, MI.
- Limayem, M., Khalifa, M. and Frini, A. (2000) 'What makes consumers buy from internet? A longitudinal study of online shopping', *IEEE Transactions on Systems, Man, and Cybernetics Part A: Systems and Humans*, Vol. 30, No. 4, pp.421–432.
- Lynn, M. and Harris, J. (1997) 'The desire for unique consumer products: a new individual differences scale', *Psychology and Marketing*, Vol. 14, No. 6, pp.601–616.
- Madjar, N., Oldham, G.R. and Pratt, M.G. (2002) 'There's no place like home? The contributions of work and non-work sources of creativity support to employees' creative performance', *Academy of Management Journal*, Vol. 45, No. 4, pp.757–767.
- Midgley, D.F. and Dowling, G.R. (1978) 'Innovativeness: the concept and its measurement', *The Journal of Consumer Research*, Vol. 4, No. 4, pp.229–242.
- Midgley, D.F. and Dowling, G.R. (1993) 'A longitudinal study of product form innovation: the interaction between predispositions and social messages', *Journal of Consumer Research*, Vol. 19, No. 4, pp.611–625.
- Mischel, W. (1968) *Personality and Assessment*, Wiley, New York.
- Moschis, G.P. (1987) *Consumer Socialization: A Life-cycle Perspective*, Lexington, Lexington, MA.
- Mudd, S. (1990) 'The place of innovativeness in models of the adoption process: an integrative review', *Technovation*, Vol. 10, No. 2, pp.119–136.
- Oliver, R.L. (1980) 'A cognitive model of the antecedents and consequences of satisfaction decisions', *Journal of Marketing Research*, Vol. 17, No. 4, pp.460–469.
- Raju, P.S. (1980) 'Optimum stimulation level: it's relationship to personality, demographics and exploratory behavior', *Journal of Consumer Research*, Vol. 7, No. 3, pp.272–282.
- Ramamoorthy, N., Flood, P.C., Slattery, T. and Sardesai, R. (2005) 'Determinants of innovative work behavior: development and test of an integrated model', *Creativity and Innovation Management*, Vol. 14, No. 2, pp.142–150.
- Roehrich, G. (2004) 'Consumer innovativeness – concepts and measurements', *Journal of Business Research*, Vol. 57, No. 6, pp.671–677.
- Rogers, E.M. (1962) *Diffusion of Innovations*, The Free Press of Glencoe, New York.
- Rogers, E.M. (1995) *Diffusion of Innovations*, 4th ed., The Free Press of Glencoe, New York, NY.
- Rogers, E.M. (2003) *Diffusion of Innovations*, The Free Press, New York, NY.
- Rogers, E.M. and Shoemaker, F.F. (1971) *Communication of Innovations, A Cross-cultural Approach*, 2nd ed., The Free Press, New York.
- Rothschild, M.L. (1984) *Perspectives on Involvement: Current Problems and Future Directions*, ACR North American Advances..

- Ruvio, A. and Shoham, A. (2007) 'Innovativeness, exploratory behavior, market mavenship, and opinion leadership: an empirical examination in the Asian context', *Psychology and Marketing*, Vol. 24, No. 8, pp.703–722.
- Schillewaert, N., Ahearne, M.J., Frambach, R.T. and Moenaert, R.K. (2005) 'The adoption of information technology in the sales force', *Industrial Marketing Management*, Vol. 34, No. 4, pp.323–336.
- Schumpeter, J.A. (2008) *The Theory of Economic Development: An Inquiry into Profits, Capital, Credit, Interest and the Business Cycle*, translated from the German by Redvers Opie, New Brunswick (USA) and London (UK), Transaction Publishers.
- Scott, S.G. and Bruce, R.A. (1994) 'The influence of leadership, individual attributes, and climate on innovative behavior: a model of individual innovation in the workplace', *Academy of Management Journal*, Vol. 37, No. 3, pp.580–607.
- Shalley, C.E., Zhou, J. and Oldham, G.R. (2004) 'The effects of personal and contextual characteristics on creativity: where should we go from here?', *Journal of Management*, Vol. 30, No. 6, pp.933–958.
- Shane, S., Venkataraman, S. and MacMillan, I. (1995) 'Cultural differences in innovation championing strategies', *Journal of Management*, Vol. 21, No. 5, pp.931–952.
- Shannon, R. and Mandhachitara, R. (2008) 'Causal path modeling of grocery shopping in hypermarkets', *Journal of Product and Brand Management*, Vol. 17, No. 5, pp.327–340.
- Siegel, S.M. and Kaemmerer, W.F. (1978) 'Measuring the perceived support for innovation in organizations', *Journal of Applied Psychology*, Vol. 63, No. 5, pp.553–562.
- Sitkin, S.B. and Weingart, L.R. (1995) 'Determinants of risky decision-making behavior: a test of the mediating role of risk perceptions and propensity', *Academy of Management Journal*, Vol. 38, No. 6, pp.1573–1592.
- Slama, M.E., Natarajan, R. and Williams, T.G. (1992) 'Market mavens and the relationship between smart buying and information provision: an exploratory study', in Crittenden, V.L. (Ed.): *Developments in Marketing Science*, Vol. 15, pp.90–93, Academy of Marketing Science, Chestnut Hill, MA.
- Smith, P.C., Kendall, L.M. and Hulin, C.L. (1969) *The Measurement of Satisfaction in Work and Retirement*, Rand McNally, Chicago.
- Spanos, Y.E. (2009) 'Innovation adoption: an integrative model', *Spoudai*, Vol. 59, Nos. 1–2, pp.100–124.
- Steenkamp, J-B.E.M. and Baumgartner, H. (1992) 'The role of optimum stimulation level in exploratory consumer behavior', *Journal of Consumer Research*, December, Vol. 19, No. 3, pp.434–448.
- Steenkamp, J-B.E.M. and Gielens, K. (2003) 'Consumer and market drivers of the trial probability of new consumer packaged goods', *Journal of Consumer Research*, Vol. 30, No. 3, pp.368–384.
- Steenkamp, J-B.E.M., Hofstede, F.T. and Wedel, M. (1999) 'A cross-national investigation into the individual and national cultural antecedents of consumer innovativeness', *Journal of Marketing*, Vol. 63, No. 2, pp.55–69.
- Tellis, G.J., Yin, E. and Bell, S. (2009) 'Global consumer innovativeness: cross-country differences and demographic commonalities', *Journal of International Marketing*, Vol. 17, No. 2, pp.1–22.
- Tierney, P. and Farmer, S.M. (2004) 'The pygmalion process and employee creativity', *Journal of Management*, Vol. 30, No. 3, pp.413–432.
- Tushman, M.L. and Nadler, D.A. (1986) 'Organizing for innovation', *California Management Review*, Vol. 28, No. 3, pp.74–92.
- Van de Ven, A.H. (1986) 'Central problems in the management of innovation', *Management Science*, Vol. 32, No. 5, pp.590–608.

- Van Maanen, J.E. and Schein, E.H. (1979) 'Towards a theory of organizational socialization', in Staw, B.M. (Ed.): *Research in Organizational Behavior*, Vol. 1, pp.209–264, JAI Press, Greenwich, Conn.
- Venkatraman, M.P. (1991) 'The impact of innovativeness and innovation type on adoption', *Journal of Retailing*, Vol. 67, No. 1, pp.51–67.
- Venkatraman, M.P. and Price, L.L. (1990) 'Differentiating between cognitive and sensory innovativeness: concepts, measurement, and implications', *Journal of Business Research*, Vol. 20, No. 4, pp.293–315.
- Wayne, J.H., Musisca, N. and Fleeson, W. (2004) 'Considering the role of personality in the work-family experience: relationships of the big five to work-family conflict and facilitation', *Journal of Vocational Behavior*, Vol. 64, No. 1, pp.108–130.
- West, M.A. and Farr, J.L. (1990) *Innovation and Creativity at Work: Psychological and Organizational Strategies*, John Wiley and Sons, Oxford, England.
- Wiggins, J.W. (1973) *Personality and Prediction: Principles of Personality Assessment*, Addison-Wesley, Reading, Mass.
- Yuan, F. (2005) *Individual Innovation in the Workplace: The Role of Performance and Image Outcome Expectations*, unpublished Doctoral dissertation, Texas A&M University, College Station, Texas.
- Yuan, F. and Woodman, R.W. (2010) 'Innovative behavior in the workplace: the role of performance and image outcome expectations', *Academy of Management Journal*, Vol. 53, No. 2, pp.323–342.

## Appendix

### *The research questionnaire*

---

#### *Trait innovativeness (Pallister and Foxall, 1998)*

---

- 1 I am generally cautious about accepting new ideas
  - 2 I am suspicious of new inventions and new ways of thinking
  - 3 I rarely trust new ideas until I can see whether the vast majority of people around me accept them
  - 4 I am aware that I am usually one of the last people in my group to accept something new
  - 5 I am reluctant about adopting new ways of doing things until I see them working for people around me
  - 6 I find it stimulating to be original in my thinking and behaviour
  - 7 I tend to feel that the old way of living and doing things is the best way
  - 8 I am challenged by ambiguities and unsolved problems\*
  - 9 I must see other people using new innovations before I will consider them
  - 10 I often find myself sceptical of new ideas
- 

#### *Risk-taking tendency (Donthu and Gilliland, 1996; Griffin et al., 1996)*

---

- 11 I would rather be sorry than safe
  - 12 I do not have to be sure before I purchase something
  - 13 I am not avoiding risky things
  - 14 Taking risks can be fun
  - 15 I prefer friend who are unpredictable
- 

Note: \*Item deleted from the questionnaire.

*The research questionnaire (continued)*

---

*Consumer innovative behaviour (Oliver and Bearden, 1985)*

---

- 16 I like to buy new things
- 17 I enjoy buying unordinary products
- 18 I am usually among the first to try new products
- 19 I like to take chances

---

*Employee innovative behaviour (Janssen, 2000)*

---

- 20 Creating new ideas for difficult issues
- 21 Searching out new working methods, techniques or instruments
- 22 Generating original solutions for problems
- 23 Mobilising support for innovative ideas
- 24 Acquiring approval for innovative ideas
- 25 Making important organisational members enthusiastic for innovative ideas
- 26 Transforming innovative ideas into useful applications
- 27 Introducing innovative ideas into the work environment in a systematic way
- 28 Evaluating the utility of innovative ideas

---

*Market mavenship (Feick and Price, 1987)*

---

- 29 The market maven: a diffuser of marketplace information
- 30 I like helping people by providing them with information about many kinds of products
- 31 People ask me for information about products, places to shop or sales
- 32 If someone asked where to get the best buy on several types of products, I could tell him or her where to shop
- 33 My friends think of me as a good source of information when it comes to new products or sales
- 34 I know about new products, sales, stores, and so on, but am not necessarily an expert on one particular product

---

*Opinion leadership (Flynn et al., 1996)*

---

- 35 I often influence people's opinions about this product
- 36 When they choose this product, other people turn to me for advice
- 37 Other people come to me for advice about this product
- 38 People that I know pick this product based on what I have told them
- 39 I often persuade other people to buy this product
- 40 What I said about this product changes other people's minds

---

*Job satisfaction (Judge et al., 2001)*

---

- 41 I feel fairly satisfied with my present job
- 42 Most days, I am enthusiastic about my work
- 43 Each day at work seems like it ends really fast
- 44 I find real enjoyment in my work
- 45 I consider my job to be rather pleasant

---

Note: \*Item deleted from the questionnaire.

*The research questionnaire (continued)*

---

*Organisational commitment (Jaworski and Kohli, 1993)*

---

- 46 Employees feel as though their future is intimately linked to that of this organisation
- 47 Employees would be happy to make personal sacrifices if it were important for the organisation well-being
- 48 The bonds between this organisation and its employees are strong
- 49 In general, employees are proud to work for this organisation
- 50 Employees often go above and beyond the call of duty to ensure the organisation well-being
- 51 Our people have a lot of commitment to this organisation
- 52 It is clear that employees are fond of this organisation

---

*Consumer expectations from innovative behaviour (Haslam et al., 2010)*

---

- 53 I believe that consumption of innovative products will change my family's life for the better
- 54 I believe that consumption of innovative products will improve the quality of my family's life
- 55 I believe that consumption of innovative products will improve the atmosphere within my family

---

*Expectations from innovative behaviour at work (House and Dessler, 1974)*

---

- 56 The more innovative I am, the better my job performance
- 57 Coming up with creative ideas helps me do well on my job
- 58 My work unit will perform better if I often suggest new ways to achieve objectives

---

*Perception of the family as innovative (Oliver and Bearden, 1985)*

---

- 59 My family likes to buy new things
- 60 My family enjoy buying unordinary products
- 61 My family is usually among the first to try new products
- 62 My family likes to take chances

---

*Perception of the workplace as support innovation (Scott and Bruce, 1994)*

---

- 63 Creativity is encouraged here
- 64 Our ability to function creatively is respected by the leadership
- 65 Around here, people are allowed to try to solve the same problems in different ways
- 66 This organisation can be described as flexible and continually adapting to change
- 67 This organisation is open and responsive to change
- 68 The reward system here encourages innovation
- 69 This organisation publicly recognises those who are innovative
- 70 The main function of members in this organisation is to follow orders which come down through channels
- 71 Around here, a person can get in a lot of trouble being different
- 72 A person cannot do things that are too different around here without provoking anger
- 73 The best way to get along in this organisation is to think the way the rest of the group does

---

Note: \*Item deleted from the questionnaire.



*The research questionnaire (continued)*

---

*Perception of the workplace as support innovation (Scott and Bruce, 1994)*

---

- 74 People around here are expected to deal with problems in the same way
  - 75 The people in charge around here usually get credit for others' ideas
  - 76 In this organisation, we tend to stick to tried and true ways
  - 77 This place seems to be more concerned with the status quo than with changes
  - 78 The reward system here benefits mainly those who do not rock the boat.
- 

*Socially desirable response tendencies (Steenkamp et al., 2010)*

---

- 79 I sometimes tell lies if I have to
  - 80 It happened that I cover up my mistakes
  - 81 I have said something bad about a friend behind his or her back
  - 82 When I hear people talking privately, I sometimes listen
  - 83 I sometime gossip about other people's business
- 

Note: \*Item deleted from the questionnaire.