
17. Facilitating intuitive decision-making and an entrepreneurial mindset in corporate culture – a case study

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Most scholars agree that what differentiates entrepreneurs from other actors in the economy is their behaviour (Bradley et al., 2011). Dane and Pratt (2007: 48) highlight significant aspects of entrepreneurial behaviour as “the interplay between rational and intuitive decision making”. Likewise, in terms of the cognitive basis of making moral judgments and decisions, social psychologist Haidt (2013: 53) identifies the crucial components as “intuition and reasoning”. Within this context, Kreuger (2007) emphasizes the significance of entrepreneurial intentions, entrepreneurial attitudes, deep cognitive structures and deep beliefs. All these findings demonstrate the importance of a holistic view of entrepreneurial behaviour, opportunity focus, decision making and the spiritual/moral understandings that drive the successful entrepreneur’s mindset.

Creating new products through opportunity recognition and creative decision-making processes is the ‘front-end’ of innovation (Hyppänen, 2013). Indeed, co-creation practices (Frow et al., 2016; Sarasvathy & Venkataraman, 2011) emphasize collaboration and interaction among multiple actors through the integration of human, material and financial resources to deliver value propositions perceived by the customer/user as innovation. Such perceptions of added value in the marketplace are seen as elements resulting from intuitive insight and decisive actions, associated with entrepreneurial behaviour and expressed as a corporate-wide culture (Malewska, 2019). The identified creativity and cognitive style are associated with individual differences in perceiving, behaving and solving problems (Ming-Huei et al., 2015), and as such are critical to the majority of high performing global industries and business executives (Henry & de Bruin, 2011). Intuitive decision-making behaviours that contribute to effective entrepreneurship and innovation include insight/perceiving, gut feel, intuition, “knowing” a decision is right, solving problems, taking decisions and relating to others – and what is referred to as non-local intuition (Armstrong et al., 2012; Bradley et al., 2011; La Pira & Gillin, 2006; Sadler-Smith & Shefy, 2004).

Examples of such decision making surrounding opportunity recognition, creativity, intuition and divergent thinking (reasoning) have largely been studied from a cognitive perspective using both conscious and unconscious processes, including pattern recognition and memory retrieval (Akinci, 2014; Mitchell et al., 2002, 2005; Shane, 2003). Importantly, Blume and Covin (2011) argue for caution when attribut-

ing intuition in decision-making as decisions around venture creation are influenced by a number of factors. However, Cunha (2007) suggests the rational view of decision making needs to be harmonized with the intuitive and improvisational modes in order to provide a richer and more integrated understanding of entrepreneurial behaviour. Significantly, Dane and Pratt (2007) have concluded that the practice of intuitive decision-making may be more relevant to executive decision makers dealing with strategy, investment and related management issues. Both Kickul et al. (2010) and Dane and Pratt (2007) also observe that intuition pertains less to learning the process but more to the way how learning and information is accessed and practised. Therefore, the effective use of explicit and implicit learning philosophies to influence intuitive decision-making practice depends on establishing a rigorous and complex cognitive framework. Intuitive perception, in this respect, enables decision makers to process cues from sensed opportunities and behave entrepreneurially in delivering innovations in the marketplace.

The presented case reviews how a strategic intervention within a large middle-market financial services partnership in Melbourne, Australia, using an in-house delivered university post-graduate entrepreneurship education program, cultivates an entrepreneurial mindset and an effective innovation culture amongst company staff. The intervention produces a measured change in staff decision-making style from analytical to a more intuitive style. Also assessed is the resulting management style (entrepreneurial mindset) and how it impacts the firm's internal environment, strategic motivation and performance.

ENTREPRENEURIAL COGNITIVE STYLE

Organizational psychologists identify entrepreneurial behaviour, or cultural expression in terms of 'individual cognitive style' (Allinson, et al., 2000; Armstrong et al., 2012; Norris & Epstein, 2011), as including the following characteristics: individual differences in perceiving reality, responding to opportunities, solving problems, and taking decisions arising from intuitive thinking or information processing outside of awareness by automatically learning from experience (i.e., experiential processing). Nandram et al. (2018) objectivize these perceptions and subtle cues (both internal and external) in terms of conscious emotions, thoughts, perceptions and information. In considering distinctions between expert and novice entrepreneurs, Wang et al. (2018) identify cognitively based intuition (seeing the bigger picture, sense making) and affectively based intuition (gut feeling) as needed for effective decision making in innovation. Such cognitive intuition is more strongly exhibited by expert entrepreneurs. Both aspects (cognitive and affect) are not in conflict or exclusive but work simultaneously (Akinci & Sadler-Smith, 2012; Dane & Pratt, 2007; Hodgkinson et al., 2009; Sinclair et al., 2009). Other aspects of entrepreneurial intuition, such as the level of faith in intuition (Hicks et al., 2010) and the quantum approach to 'non-local' intuition (electrophysiology measures), are not the focus of this chapter but were reviewed elsewhere (see Bradley et al., 2011).

In seeking to further understand an entrepreneur's propensity for intuitive decision-making, this discussion is based on both cognitive and affective elements being part of the same experiential system. Sinclair et al. (2009) argue that formal mental simulation contributes creativity to an entrepreneurial business venture. Perhaps this can be called an 'entrepreneurial mindset'. Sinclair (2010) has proposed the term 'intuitive foresight' as a forward-looking intuition. Blume and Covin (2011) identify eight factors associated with the strength of an entrepreneur's attributions to intuition when making a venture founding decision. One of these factors – the strength of the entrepreneur's intuitive cognitive style, is contingent upon the individual's perception that intuition is an acceptable basis for decision making. In reference to strategic cognition, Narayanan et al. (2011) portray strategy formulation as a complex activity consisting of scanning, sense making and decision making, with the structure and process of cognition significantly influencing the framing of decisions. In considering our understanding of the role of culture/ entrepreneurial behaviour in delivering effective innovations, Chaston and Sadler-Smith (2012) suggest a greater need to focus attention on the unique attributes of creative entrepreneurs and their effects on organizational process and performance. Such a focus may also be studied under the concept of entrepreneurial mindset.

Choice of Cognitive Style Index (CSI)

Given the cognitive underpinnings (discussed above) of the entrepreneurial mindset, entrepreneurial decision-making, entrepreneurial culture and other similar conceptualizations of entrepreneurial cognitions (Akinci & Sadler-Smith, 2013; Allinson et al., 2000; Armstrong et al., 2012; Chaston & Sadler-Smith, 2012; Haynie et al., 2010), it is appropriate to consider the choice of the 'Cognitive Style Index' (CSI) as a tool for this study to measure (or as a proxy for) the propensity of entrepreneurial decision-making behaviour and its relationship with culture.

The self-administered index (CSI: Allison & Hayes, 1996) is designed to test the participant's propensity for 'intuitive decision-making' compared to 'analytic decision-making' on a continuum from one extreme to the other, with the premise that successful entrepreneurs would be skewed towards the intuitive decision-making end of the continuum (Allinson & Hayes, 2012). Alternatively, Hodgkinson and Sadler-Smith (2003a, 2003b) view the propensity for intuitive and analytic cognition as representing two poles where a person may not be just high on one and low on the other (as suggested by the continuum model), but also high on both or low on both at the same time. This alternative view, or 'dual-process', has been described by Evans (2003: 458) as "two minds in one brain".

Hodgkinson et al. (2009) have reviewed differences in the continuum versus dual-process models to describe decision-making style associated with the dimensions of intuition/experientiality and analysis/rationality and concluded the dual-process model has a more convincing theoretical basis. That said, their findings show that for CSI, the analytical and intuitive factors appear to overlap and interrelate, thus limit-

ing any absolute use of CSI values (derived from Allinson & Hayes', 1996 concept) in cognitive style research.

Over many years, the author has used the CSI measure (Allinson & Hayes, 2012) to initially screen and identify serial entrepreneurs participating in a study of 'heart rate variability', intuition and opportunity decision-making (La Pira & Gillin, 2006). From 2003 to 2019 some 300 serial entrepreneurs, post-graduate students studying entrepreneurship and interested managers seeking to improve the entrepreneurial behaviour/culture inside their organizations have completed a CSI measure. Analysis and interpretation of these results found the CSI score to be a robust and reliable indicator of entrepreneurial intent. Given this finding, and the need to maintain consistency with these previous studies, all measures of decision-making style in this study are based on the standard CSI measure (Allinson & Hayes, 1996).

ENTREPRENEURIAL MINDSET

Entrepreneurial mindset (EM) (Haynie et al., 2010; Ireland et al., 2003; Shepherd et al., 2010) is a way of thinking about opportunities and effective innovation that surface in the firm's external and internal environment. By adopting an entrepreneurial mindset, Ireland et al. (2003) claim managers increase their ability to both recognize opportunities and facilitate necessary resources to 'make-it-happen'. This outcome results in an entrepreneurial culture and effective entrepreneurial leadership impacting the firm's strategic management, innovation and wealth creation. In considering how entrepreneurial either an individual's mindset or an organization's culture is, Shepherd et al. (2010: 60) comment that "interdependencies exist between the manager's mindset and the staff/organisation culture such that entrepreneurial culture and entrepreneurial mindset are inextricably interwoven". Similarly, in considering the concept of cognition and decision-making, Haidt (2013: 52) finds that emotions/gut feel/intuition and reasoning form a continuum of information processing where "contrasting emotion with cognition is therefore pointless".

In seeking to measure entrepreneurial mindset, Davis et al. (2015) developed the Entrepreneurial Mindset Profile (EMP), comprising a large set of individual characteristics including entrepreneurial personality and associated skill sets. A meta-analysis (Stewart & Roth, 2007) of the link between 'achievement motivation' and 'entrepreneurial status' found that entrepreneurs demonstrated reliably higher achievement motivation than managers. In addition, entrepreneurs demonstrated a higher 'risk propensity' than managers. In each case growth-oriented entrepreneurs were characterized by significantly greater levels of EM than managers. It is noted by Davis et al. (2015) that these results are based on an almost total reliance on self-report data.

Using the 'opportunity screening tool' template, developed by Timmons et al. (2011), Hazelton and Gillin (2019) adapted this tool for the self-assessment of EM amongst selected nursing trailblazers in the health industry and also for senior partners associated with the financial services partnership reviewed in the presented case.

Four dimensions: *leadership, decision making, behaviour and awareness*, were used to describe entrepreneurial performance. Each dimension was scaled, as indicated in Figure 17.1, to measure the propensity for action on a five-point scale.

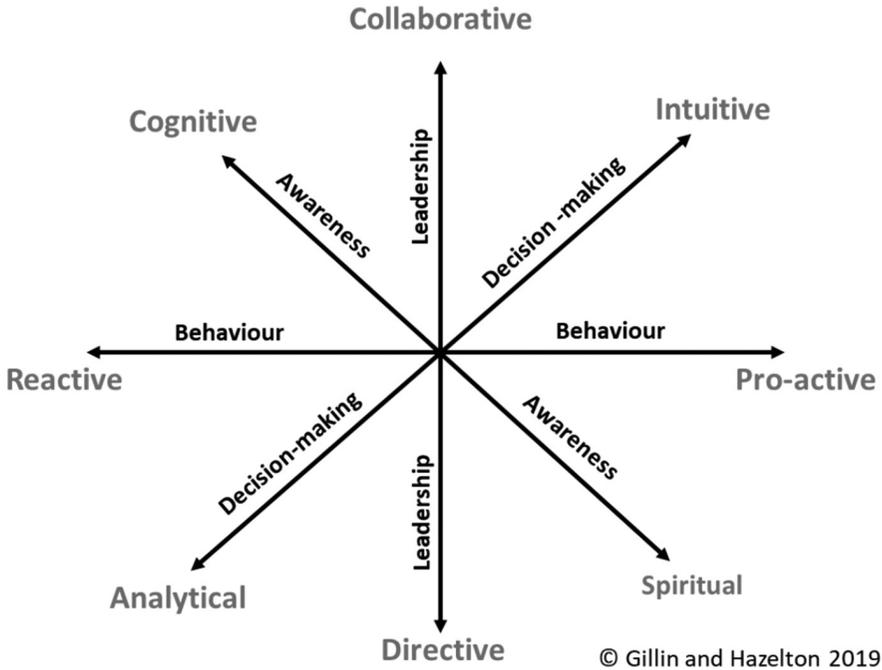


Figure 17.1 Entrepreneurial dimensions associated with evaluated personal propensities

The implication for displaying these action styles is to provide holistic understanding of the selected partner’s entrepreneurial mindset as achieved after participation in an entrepreneurial learning pedagogy. Such information refers to the partner’s personal development, and by extension, corporate entrepreneurial behaviour that contributes to effective innovations that are valued by the partners in the partnership together with clients of the firm.

The use of an EMP, as Davis et al. (2015) conclude, can provide would-be entrepreneurs with a greater insight into how their entrepreneurial motives and skills might affect outcomes; it can be valuable for organizations when constructing entrepreneurial teams; and it can enable university staff to develop teaching programs that help students understand EM as a concept and use it to grasp their own unique entrepreneurial being.

ENTREPRENEURIAL EDUCATION INTERVENTION: A CASE STUDY

The studied financial services firm is a partnership in Melbourne, Australia, providing financial and corporate advisory services to the ‘middle-market’ and family-based businesses. This 30-year-old firm (600 staff) faces ongoing change and business disruptions, including compliance conformity, technology changes, speed of regulatory change and an aging population. In 2010 the firm recognized the need to seek an appropriate strategy, identify ways to continue to be successful, learn quickly, be ahead of the game and see change coming rather than simply reacting to it.

Following an internal entrepreneurial health audit identifying the firm’s need for more effective staff creativity and cross-discipline teamwork (Gillin et al., 2018), the partners chose to invest in an education intervention where the focus would not be on general management skills but on the development of creative skills and practices, nurturing an entrepreneurial culture that identifies opportunities and effectively delivers innovations needed in the marketplace. One partner noted:

We’ve always been an entrepreneurial firm with a strong entrepreneurial legacy from the founding partners. The intervention will reinforce that entrepreneurial behaviour; it’s the next natural step. (Partner 6)

Based on a specification for post-graduate entrepreneurial education at the Master’s level and accredited by AACSB, the supporting brief included the following requirements: provide a nested group of post-graduate award programs at Graduate Certificate, Graduate Diploma and Master’s level; deliver quality and integrated learning through a team of experienced professors, inspiring academics and dynamic entrepreneurs, using a portfolio of learning practices (Neck et al., 2014); apply the concept of *theory for practice sake rather than theory for theory sake*; integrate curriculum design with academic materials, experiential learning, entrepreneurial theory, practice and experience; teach from in-house and external case studies in the Harvard style; incorporate an applied research project selected from firm/client identified opportunities; use the block teaching mode to meet staff availability; direct students to search for opportunities to evaluate early in the first term; seek application of learning to in-house business practice and/or with family business clients; teach innovation as the ‘tool’ of the entrepreneur where innovation is defined as “the process that endows a recognized opportunity with the capacity to add value to an already existent invention, product, process or service and at a price a customer will pay” (author definition); and develop an international dimension to entrepreneurship.

The selected provider was the Entrepreneurship, Commercialisation and Innovation Centre (ECIC) at the University of Adelaide (2011–2016). Since 2017 the provider is the Australian Graduate School of Entrepreneurship (AGSE), Swinburne University of Technology. All contracted staff, teaching in the Melbourne office of the partnership, were highly experienced with a proven track record for delivering behavioural change from the applied learning methods. In particular, each staff

member was academically qualified at PhD/Master's level, passionate to exchange knowledge and practice, inspirational in presentation, and committed to a holistic mindset in entrepreneurial education. Emphasis was placed on staff developing the human dimensions – intellectual, emotional; and spiritual – to further effective decision making and entrepreneurial behaviour. Learning practices included use of creative tools and mindsets to both identify and evaluate opportunities; workshops with practising serial entrepreneurs; exercises and practice in emotional and spiritual intelligence; student case writing of corporate entrepreneurial outcomes; ethical discussions around entrepreneurial mindset and the dimensions of leadership, decision making, behaviour and awareness.

On average, the student cohort for each yearly intake (for a seven-year period) was around 20 comprising partners, principals and senior managers of the firm. The groups ranged in age from 32 to 54 years, were predominantly male (overall 20 per cent female) and mainly Caucasian. Some 120 students completed various levels of the program (40 Graduate Certificates, 60 Graduate Diplomas and 20 Master's degrees). All students completed a CSI survey on entry and repeated it after exiting the courses and gaining further experience in the firm. In addition, structured interviews were conducted with a selection of partners to elucidate observed changes in staff behaviour in terms of opportunity identification and post-course behaviours. In 2019 selected partners of the firm, including the four who completed the Master's degree, were surveyed with an instrument to evaluate personal EM propensity.

ENTREPRENEURIAL EDUCATION EFFECTS

Decision-Making Style

In the first two years of the entrepreneurship program (2011 and 2012) when using CSI to measure changes in propensity for intuitive decision-making, only a little change was observed (see mean values in orange bars, Figure 17.2). Indeed, the scores were close to the world mean for managers (on the analytical side of the mid-point) as determined from international testing (Allinson et al., 2000). However, over subsequent years (2013 to 2017) the decision style score moved below the mid-point, towards a more intuitive style, reaching a mean score close to the world mean for entrepreneurs. This significant shift from 2010 to 2017 represented a change of 17.8 per cent (Gillin et al., 2018). Re-measurement of CSI levels of previously graduated staff in 2018 (see Figure 17.2) suggests they either maintained or marginally improved their propensity for intuitive decision-making after their completion of the program. The outliers for each cohort are also shown.

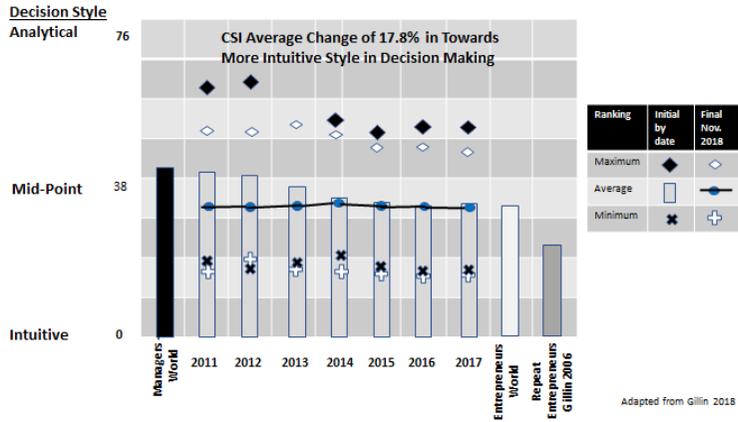


Figure 17.2 Cognitive Style Index (CSI): Participants in entrepreneurship course – at start of each course 2011–2017 and re-measured in November 2018

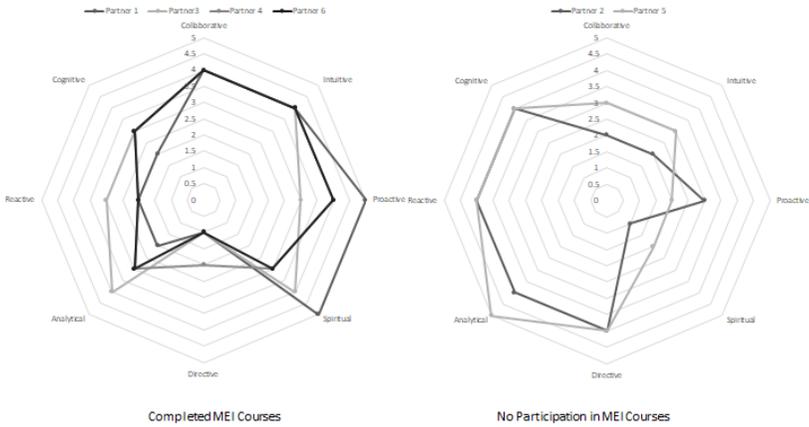


Figure 17.3 Entrepreneurial mindset propensities for six partners

Entrepreneurial Mindset

Completion of the Entrepreneurial Mindset survey by a cross section of firm partners in 2019 (see Figure 17.3) indicates that those partners who completed the (in-house) Master of Entrepreneurship and Innovation, namely Partner 1, 3, 4 and 6, show a greater propensity for intuitive EM characteristics over the general partnership, represented by Partner 2 and 5.

Partner Interviews

Development of the firm's entrepreneurial culture and EM characteristics following participation in the education intervention are best understood by considering comments extracted from structured interviews with partners who completed 4, 8 or 12 course units. These interviews reveal a significantly positive attitude towards entrepreneurship within the organization, and a broad range of initiatives that support a corporate entrepreneurial strategy. The findings are grouped around the four dimensions of entrepreneurial mindset, as shown in Figure 17.3 with the associated characteristics:

Behaviour – Pro-active/Reactive:

- It is generally accepted by the senior partnership that if you don't continually adapt and change as a professional practice, you risk irrelevancy in the market. Entrepreneurship and a willingness to innovate are seen as essential. (Partner 4)
- We have to be proactive and responsive, anticipating our clients' needs so that we are a step ahead. There is a great level of complexity, complexity around regulation, accounting rules, taxation rules ... You need to be more anticipatory, ahead of the curve, see the problems before the problems occur ... The next evolution is all about preventing the problems, predicting the future, creating the future ... That is the direction we are going as a firm. (Partner 3)

Decision Making – Intuitive/Analytical:

- We want our staff to continually look outside the firm, understand what the opportunities might be for us to grow and for us to better service our clients. This has always been encouraged by management. If there are good ideas, if they're well thought through, you want partners to have a go. If it works, fantastic, if it doesn't work, fine, we move on. (Managing Partner)
- We're not prepared to put the reputation of the firm at risk, but we are prepared to invest in growing the business through innovation, and if some of those initiatives work, great, if not, we move on. (Managing Partner)
- We don't encourage risk as an end in itself. At the same time, we have supported some 'risky' projects that had a good business plan. (Partner 1)

Leadership – Collaborative/Directive:

- We're aware that not tapping into the innate, innovative abilities of over 600 staff, that we're relying on a small partner group. So, there's a lost opportunity. An innovation committee was formed recently with a view to addressing this point, looking at ways of germinating ideas, capturing ideas, and funding them, across the firm. We need to harness the power of everybody. (Partner 3)
- We have supported projects related to entrepreneurship of the next generation, projects on entrepreneurship incubators. Through the Institute we have captured a lot of intellectual property that we want to develop further. We need to leverage off some of the projects that have been developed by those who have completed the master's course. (Partner 6)

Awareness – Spirituality/Cognitive:

- We're now dealing more with entrepreneurs, and we have the confidence to do it. (Managing Partner)
- It enables us to initiate new conversations with our clients. It's a different conversation, it enables us to inspire our clients and make them more aspirational. It gives you the capacity to empathize with your clients better and engage with them better. (Partner 6)
- The type of work that our people were doing has changed ... We were looking for a reskilling of our core capabilities around the provision of valuable business advice, and it was too important to leave it to others, essentially. This in-house program is a key ingredient in the education of an 'aware' business advisor. (Partner 3)

THINKING DISPOSITIONS ON CULTURE CHANGE AND BEHAVIOUR

The claustrophobic impact of a focus on compliance in accounting and financial services can take precedence over the necessary attention and time required to develop staff in the firm's commitment to deliver specialist advising services to their clients and to build a high degree of trust. One solution identified by partners of the studied firm was to consider a strategic initiative to cultivate corporate entrepreneurship, intuitive decision-making style and an entrepreneurial mindset amongst staff across the organization, with a focus on identifying and evaluating opportunities, and also sharing these skills with clients in order to grow both the firm and client businesses. Such strategic approach produces added value in the marketplace (Malewska, 2019) and develops staff with strong cognitive-based intuitive behaviour better suited to manage uncertainty (Wang et al., 2018).

After seven years of in-house entrepreneurship education within the firm, as reported above, it is clear that an effective change, both in firm and personal entrepreneurial behaviour, is the key to innovation, productivity and effective competition. By enhancing intuitive decision-making skills and developing an entrepreneurial mindset, the measured changes amongst course participants confirm that entrepreneurial thinking and associated behaviour as well as practice can be taught (Neck et al., 2014). Indeed, this case confirms that exposure of staff to selected pedagogical

principles, appropriate entrepreneurship education programs and inspirational lecturing staff can and does affect changes in participants both personally and corporately in regard to opportunity focus, entrepreneurial mindset and strategic culture (Davis et al., 2015). As Kickul et al. (2010) showed, this impact pertains less to learning the process but rather to the way how learning and information is accessed and practised. In addition, the reported findings confirm the conclusion of Sadler-Smith (2016) that businesses exercising strong intuitive cognition in decision making are more likely to identify opportunities that can be turned into new business markets (and innovation).

Significantly, results from this longitudinal case study have demonstrated the value of Cognitive Style Index (CSI) for assessing the impact of entrepreneurship learning/training aimed at the development of staff culture and practice that is both passionate and committed to being opportunity focused, creative, team-based, providing outstanding service to clients and delivering effective innovation that grows the business. This finding confirms Blume and Covin's (2011) conclusion that the strength of the entrepreneur's intuitive cognitive style is contingent upon the individual's perception that intuition is an acceptable basis for decision making. There has been much debate over the theoretical foundations of the Allinson et al.'s (2000) CSI instrument and it is accepted that a dual process-based index would produce more precise measures. However, in this study the CSI is robust enough to provide confidence in assessing staff change/behaviours resulting from entrepreneurship education and training.

Importantly, the administration of the CSI over a seven-year period in each entry cohort provides a valuable insight into the long-term impact of such entrepreneurship learning. Even when tested several years after the initial course experience, the participating staff have retained their propensity towards intuitive decision-making style. This experience can guide academics in developing teaching programs that enable students to understand EM as a concept and their own unique entrepreneurial being (Davis et al., 2015).

It is worth noting that the CSI was administered to participants as they entered a new cohort of the program. They had no formal course work in the degree program before taking the CSI. Yet each successive cohort on entry indicated a higher propensity towards intuitive decision-making than the previous one. This was not understood until analysing the comments made by partners in the structured interviews. It became clear that as each cohort progressed through the program, the participants were sharing their learning, sharing new opportunities, socializing and developing a new culture. The partners claimed that as existing staff observed the change they sought to associate with it and finally apply to do the course. This effective change in corporate culture was captured by the CSI testing. As partners noted:

What I see now is that the type of conversations that the people who have been through the program have with their clients is very different. They are far more forward looking, they are open to questions, they are more conscious of the client's environment, their competitive situation and the opportunities, and they will engage more holistically with the client. (Partner 3)

A lot of the innovation that is happening internally in the firm comes from projects that were developed during the course. You can see the difference in the people who have done the course. There's no question about it. (Partner 6)

This is in accord with the findings of Ireland et al. (2003) that managers who recognize and drive opportunities in the organization add to the development of an entrepreneurial culture by impacting firm strategic management, innovation and wealth creation.

In addition, results of the EM survey of selected partners confirm Shepherd et al.'s (2010) finding that personal entrepreneurial mindset is inextricably interwoven with an expressed organizational entrepreneurial culture. The four dimensions of EM (Hazelton & Gillin, 2019) and their associated characteristic propensities (see Figure 17.1) provide a good match with the rankings of personal style in the sample of six partners. Importantly, the interwoven nature of corporate culture and personal mindset is further confirmed by those partners with an entrepreneurship Master's degree who showed a strong propensity towards collaborative leadership, intuitive decision-making, pro-active behaviour and spiritual awareness in overall performance when compared to the non-participant partners. In line with Dane and Pratt (2007), these EM partners acknowledge the valuable contribution to entrepreneurial mindset formation that the entrepreneurial education programs have made to the firm and their employees by establishing a rigorous and complex cognitive framework. One partner observed:

It puts you into the mindset of what an entrepreneur would be thinking. It helps in framing the questions and framing the structure. (Partner 3)

Overall, developing a strong intuitive decision-making mindset within the firm culture feeds into enhanced opportunity recognition and creative skills to deliver opportunities that can be turned into new business markets (and innovation). It also confirms Sadler-Smith's (2016) observation that staff with positive intuitive decision-making style produces much stronger outcomes when compared with individuals possessing a mainly analytical cognitive style. The reported study confirms also the observation of Davis et al. (2015) that entrepreneur-minded decision makers demonstrate a higher 'risk propensity' than managers.

CONCLUSIONS

This seven-year commitment to entrepreneurship in-house education by participating staff (partners and senior managers) and continued financial investment by the firm have resulted in a significant change in the firm's culture. The development of dynamic staff with an opportunity focus and a positive increase in propensity for intuitive thinking and decision-making, correlate strongly with the increase in innovation culture and improvement in the firm's competitiveness and profitability.

These have demonstrated the value of the Cognitive Style Index (CSI) for assessing changes in thinking and decision-making styles following participation in a purpose-designed entrepreneurship education program. The establishment and recognition of the importance of intuition and intuitive decision-making style for the development of an entrepreneurial mindset may not create theory of itself but intuition theory will need to be consistent with these observations. It would be instructive if a dual process-based instrument could be used in conjunction with entrepreneurial learning to further assess validity of the appropriate theory construction.

The case study shows that ‘firm-partner management’ has a passionate commitment to further developing intuitive thinking and decision-making amongst staff as part of the entrepreneurial mindset within the firm. Significantly, the findings demonstrate the importance of a holistic view of entrepreneurial behaviour, opportunity focus, decision making and the spiritual/moral understanding that drive a successful entrepreneur mindset. This new way of thinking about opportunities is now an established entrepreneurial strategy that involves the firm’s external environment and the commitments, decisions and actions necessary to pursue them, especially under conditions of uncertainty that commonly accompany rapid and significant environmental changes.

REFERENCES

- Akinci, C. 2014. Capturing intuitions in decision making: A case for the Critical Incident Technique. In M. Sinclair (Ed.), *Handbook of research methods on intuition*: 147–159. Cheltenham, UK and Northampton, MA, USA: Edward Elgar Publishing.
- Akinci, C., & Sadler-Smith, E. 2012. Intuition in management research: A historical review. *International Journal of Management Reviews*, 14(1): 104–122.
- Akinci, C., & Sadler-Smith, E. 2013. Assessing individual differences in experiential (intuitive) and rational (analytical) cognitive styles. *International Journal of Selection and Assessment*, 21(2): 211–221.
- Allinson, W.C., Chell, E., & Hayes, J. 2000. Intuition and entrepreneurial behavior. *European Journal of Work and Organizational Psychology*, 9(1): 31–43.
- Allinson, W.C., & J. Hayes. 1996. The Cognitive Style Index: A measure of intuition-analysis for organizational research. *Journal of Management Studies*, 1: 119–135.
- Allinson, W.C., & Hayes, J. 2012. *The Cognitive Style Index: Technical manual and user guide*. London: Pearson Education.
- Armstrong, S., Cools, E., & Sadler-Smith, E. 2012. Role of cognitive styles in business and management: Reviewing 40 years of research. *International Journal of Management Reviews*, 14(3): 238–262.
- Blume, B.D., & Covin, J.G. 2011. Attributions to intuition in the venture founding process: Do entrepreneurs actually use intuition or just say that they do? *Journal of Business Venturing*, 26(1): 137–151.
- Bradley, R.T., Gillin, L.M., McCraty, R., & Atkinson, M. 2011. Non-local intuition in entrepreneurs and non-entrepreneurs: Results of two experiments using electrophysiological measures. *International Journal of Entrepreneurship and Small Business*, 12(3): 343–372.
- Chaston, I., & Sadler-Smith, E. 2012. Entrepreneurial cognition, entrepreneurial orientation and firm capability in the creative industries. *British Journal of Management*, 23(3): 415–432.

- Cunha, M.P. 2007. Entrepreneurship as decision making: Rational, intuitive and improvisational approaches. *Journal of Enterprising Culture*, 15(1): 1–20.
- Dane, E., & Pratt, M.G. 2007. Exploring intuition and its role in managerial decision making. *Academy of Management Review*, 32(1): 30–54.
- Davis, M.H., Hall, J.A., & Mayer, P.S. 2015. October 19. Developing a new measure of entrepreneurial mindset: Reality, validity, and implications for practitioners. *Consulting Psychology Journal: Practice and Research*. Advance online publication. <http://dx.doi.org/10.1037/cpb0000045>.
- Evans, J.S.B.T. 2003. In two minds: Dual-process accounts of reasoning. *Trends in Cognitive Sciences*, 7(10): 454–459.
- Frow, P., McColl-Kennedy, J.R., & Payne, A. 2016. Co-creation practices: Their role in shaping a health care ecosystem. *Industrial Marketing Management*, 56: 24–39.
- Gillin, L.M., Gagliardi, R., Hougaz, L., Knowles, D., & Langhammer, M. 2018. Teaching companies how to be entrepreneurial: Cultural change at all levels. *Journal of Business Strategy*, <https://doi.org/10.1108/JBS-09-2017-0138>.
- Haidt, J. 2013. *The righteous mind*. New York: Vintage Books.
- Haynie, J.M., Shepherd, D., Mosakowski, E., & Earley, P.C. 2010. A situated metacognitive model of the entrepreneurial mindset. *Journal of Business Venturing*, 25: 217–229.
- Hazelton, L.M., & Gillin, L.M. 2019. *Nursing ecosystems: Opportunities for trailblazer practice innovations*. National Nursing Forum, 20–23 August, Hobart, Tasmania.
- Henry, C., & de Bruin, A. 2011. *Entrepreneurship and the creative economy: Process, practice and policy*. Cheltenham, UK and Northampton, MA, USA: Edward Elgar Publishing.
- Hicks, J.A., Cicero, D.C., Trent, J., Burton, C.M., & King, L.A. 2010. Positive affect, intuition, and feelings of meaning. *Journal of Personality & Social Psychology*, 98(6): 967–979.
- Hodgkinson, G.P., & Sadler-Smith, E. 2003a. Complex or unitary? A critique and empirical re-assessment of the Allinson–Hayes Cognitive Style Index. *Journal of Occupational and Organizational Psychology*, 76: 243–268.
- Hodgkinson, G.P. & Sadler-Smith, E. 2003b (Response). Reflections on reflections on the nature of intuition, analysis and the construct validity of the Cognitive Style Index. *Journal of Occupational and Organizational Psychology*, 76: 279–281.
- Hodgkinson, G.P., Sadler-Smith, E., Sinclair, M., & Ashkanasy, N.M. 2009. More than meets the eye? Intuition and analysis revisited. *Personality and Individual Differences*, 47: 342–346.
- Hypönen, O. 2013. *Decision makers' use of intuition at the front end of innovation*. Doctoral dissertation, Aalto University. School of Science. Retrieved 21 February 2020 from <https://aaltodoc.aalto.fi/bitstream/handle/123456789/8843/isbn9789526050300.pdf?sequence=1>.
- Ireland, R.D., Hitt, M.A., & Simon, D.G. 2003. A model of strategic entrepreneurship: The construct and its dimensions. *Journal of Management*, 29(6): 963–989.
- Kickul, J., Gundry, L.K., Barbosa, S.D., & Simms, S. 2010. One style does not fit all: The role of cognitive style in entrepreneurship education. *International Journal of Entrepreneurship and Small Business*, 9(1): 36–57.
- Kreuger, N.F. Jr. 2007. What lies beneath? The experiential essence of entrepreneurial thinking. *Entrepreneurship Theory and Practice*, 31(1): 123–138.
- La Pira, F., & Gillin, L.M. 2006. Non-local intuition and the performance of serial entrepreneurs. *International Journal of Entrepreneurship and Small Business*, 3(1): 17–35.
- Malewska, K. 2019. Intuition and entrepreneurship in management practice. *Journal of Business and Economics*, 9(1): 34–48.
- Ming-Huei, C., Yu-Yu, C., & Ya-Hsun, L. 2015. Creativity cognitive style, conflict, and career success for creative entrepreneurs. *Journal of Business Research*, 68: 906–910.
- Mitchell, J.R., Friga, P.N., & Mitchell, R.K. 2005. Untangling the intuition mess: Intuition as a construct in entrepreneurship research. *Entrepreneurship Theory & Practice*, 29(6): 653–679.

- Mitchell, R.K., Smith, J.B., Morse, E.A., Seawright, K., Peredo, A.M., & McKenzie, B. 2002. Are entrepreneurial cognitions universal? Assessing entrepreneurial cognitions across cultures. *Entrepreneurship Theory and Practice*, 26(4): 9–32.
- Nandram, S.S., Mourmont, G., Smith, E.K., Heaton, D.P., & Bindlish, P.K. 2018. Understanding entrepreneurial decision-making by objectivizing subtle cues. *Journal of Management, Spirituality & Religion*, 15(5): 398–423.
- Narayanan, V.K., Zame, L.J., & Kemmerer, B. 2011. The cognitive perspective in strategy: An integrative review. *Journal of Management*, 37(1): 305–351.
- Neck, H.M., Greene, P.G., & Brush, C.G. 2014. *Teaching entrepreneurship: A practice-based approach*. Cheltenham, UK and Northampton, MA, USA: Edward Elgar Publishing.
- Norris, P., & Epstein, S. 2011. An experiential thinking style: Its facets and relations with objective and subjective criterion measures. *Journal of Personality*, 79(5): 1043–1079.
- Sadler-Smith, E. 2016. The role of intuition in entrepreneurship and business venturing decisions. *European Journal of Work and Organizational Psychology*, 25(2): 212–225.
- Sadler-Smith, E., & Shefy, E. 2004. The intuitive executive: Understanding and applying ‘gut feel’ in decision-making. *Academy of Management Executive*, 18(4): 76–91.
- Sarasvathy, S.D., & Venkataraman, S. 2011. Entrepreneurship as method: Open questions for an entrepreneurial future. *Entrepreneurship Theory and Practice*, 35(1): 113–135.
- Shane S. 2003. *A general theory of entrepreneurship: The individual–opportunity nexus*. Cheltenham, UK and Northampton, MA, USA: Edward Elgar Publishing.
- Shepherd, D.A., Patzelt, H., & Haynie, J.M. 2010. Entrepreneurial spirals: Deviation-amplifying loops of an entrepreneurial mindset. *Entrepreneurship Theory and Practice*, 34(1): 59–82.
- Sinclair, M. 2010. Misconceptions about intuition. *Psychological Enquiry*, 21: 1–9.
- Sinclair, M., Sadler-Smith, E., & Hodgkinson, G.P. 2009. The role of intuition in strategic decision-making. In L. Costanzo and R.B. McKay (Eds), *The handbook of research in strategy and foresight*: 393–417. Cheltenham, UK and Northampton, MA, USA: Edward Elgar Publishing.
- Stewart, W.K. Jr., & Roth, P.L. 2007. A meta-analysis of achievement motivation differences between entrepreneurs and managers. *Journal of Small Business Management*, 45(4): 401–521.
- Timmons, J.A., Gillin, L.M., Burshstein, S.L., & Spinelli, S. 2011. *New venture creation – Entrepreneurship for the 21st century: A pacific rim perspective*. Sydney, Australia: McGraw-Hill.
- Wang, M., Gibb, J., & Sinha, P.N. 2018. Entrepreneurial decision-making styles: Developing a dynamic intuitive-analytic capability, *Academy of Management Proceedings*, 2018(1): 13841.