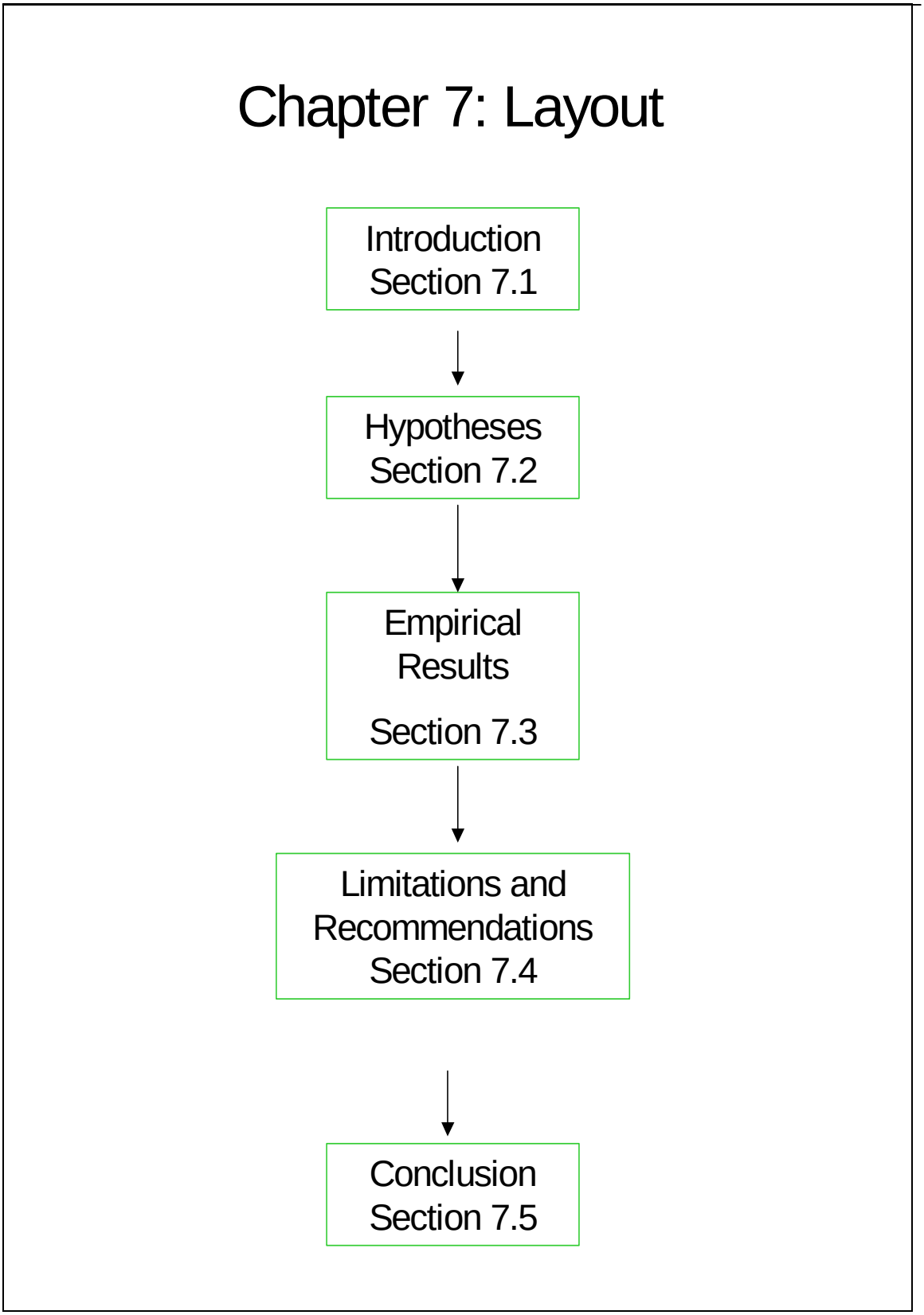
## Chapter 7: Discussion of findings



## 7.1 Introduction

The research questions governing this study were:

- Do patterning and thinking preferences (HBDI cognitions) have an influence on the decision to start a venture?
- Does business risk perception have an influence on the decision to start a venture?
- Does the illusion of control bias have an influence on the decision to start a venture?
- Do misconceptions have an influence on the entrepreneur's decision to start a venture?
- Does self-efficacy have an influence on the decision to start a venture?
- What is the relationship between the above factors?

In order to investigate the questions at hand, related literature was reviewed in Chapters 2 to 4. In Chapter 2 cognitive styles, patterning and thinking preferences were examined. In Chapter 3 the concepts of cognition, heuristics, biases, self-efficacy, misconceptions and risk perception were explored, while Chapter 4 investigated the entrepreneurial process. The methodology was presented in Chapter 5 and the analysis of the results in Chapter 6.

## 7.2 Hypotheses

This chapter discusses the findings of both the literature and the empirical study in order to answer the five research questions that were translated into the following six hypotheses:

H1o Business risk perception does not influence the decision to exploit a venture opportunity.

H1a Business risk perception influences the decision to exploit a venture opportunity.

H2o Misconceptions do not influence the decision to exploit a venture opportunity

H2a Misconceptions influence the decision to exploit a venture opportunity.

H3o Illusion of control does not influence the decision to exploit a venture opportunity.

H3a Illusion of control influences the decision to exploit a venture opportunity.

H4o Self-efficacy does not influence the decision to exploit a venture opportunity.

H4a Self-efficacy influences the decision to exploit a venture opportunity.

H5o Information preferences as determined by HBDI do not influence the decision to exploit a venture opportunity.

H5a Information preferences as determined by HBDI influence the decision to exploit a venture opportunity.

In order to be able to accept or reject the hypotheses, the empirical results of the study should be investigated and a conclusion drawn.

## 7.3 Empirical results

The literature review showed that mental or cognitive models are powerful thinking tools or metaphors, which may enhance communication, teamwork and decision-making. The thinking preferences of a person are seen as a characteristic in his or her approach to problem solving. Thinking styles may act

as a natural heuristic when an entrepreneur uses and acquires information necessary to make the decision to start or not to start a business.

### 7.3.1 Factor analysis

Considering the results for the confirmation analysis, four factors were identified (see Table 6.9). The factors are:

- Factor 1: Misconceptions
- Factor 2: Business risk perception
- Factor 3: Illusion of control
- Factor 4: Self-efficacy

The designed instrument was able to measure these four factors but not specific misconceptions or thinking preferences.

### 7.3.2 Correlation analysis

The Spearman's Rank correlations (Table 6.11), also shown in Figure 6.1, indicate the relationships between the dependent variable and the independent variables in the study. The relationships between the dependent variable, namely the decision to start, and the independent variables: business risk perception (r = 0.58**), misconceptions (r = 0.49**), and illusion of control (r = 0.33**) are highly significant.

No relationship between the decision to start and the independent variable self-efficacy was reported. There is, however, a strong relationship reported in the literature between self-efficacy and entrepreneurial intention. This study, however, focuses on the decision to start as the third step in the entrepreneurial process. The entrepreneurial intent is the first stage in the entrepreneurial process used in this study (see Chapter 4). It is, however, postulated that a strong relationship between self-efficacy and the intent (to start a venture) may not necessarily mean that a strong relation exists between the actual decision to start

and self-efficacy. However, the relationship between self-efficacy and the decision to start should be further investigated.

A highly significant negative relation exists between business risk perception and misconceptions (r = -049**). A highly significant relation also exists between illusion of control and misconceptions ((r = 0.41**). These correlations suggest that a lower business risk perception can lead to a more easily taken decision to start the venture.

The conclusion is drawn that both the independent variables: business risk perception and illusion of control, have an influence on the misconceptions of the entrepreneur based on the inter-correlations. This finding indicates that the higher the misconception of the entrepreneur, the lower the risk perception and the more likely the decision to start the venture.

This is also applicable to the illusion of control as an independent variable, because the higher the entrepreneur's illusion of control, the more misconceptions arise, which may have a direct influence on business risk perception, which may again have a direct influence on the decision to start the venture.

A significantly strong relation is also reported between illusion of control (r = -0.34**) and business risk perception. This finding indicates that the more the entrepreneur feels in control the lower the risk perception becomes, leading to a more easily taken start-up decision.

### 7.3.3 Factor analysis for HBDI

While the instrument (see Appendix A, questions 13.1–13.20) could not confirm any factors for thinking preferences, the results of the HBDI assessment were used to categorise thinking preferences. The HBDI is a valid instrument, as reported by Bunderson (1995).

Table 6.26 reports whether the first thought of the respondents (divided into highest quadrant preference categories based on their profile scores) was that the concept was viable or not. No significant differences were reported between the different dominant quadrants.

Table 6.27 reports whether the respondents would start or not start the business. Again the respondents were divided according to their highest quadrant preference categories based on their profile scores. No statistically significant differences were reported between the different quadrants.

Table 6.28 reports the choice between selling the concept or starting the business. The respondents were again divided according to their highest quadrant preference categories based on their profile scores, but no significant differences were reported between the different dominant quadrant categories.

From these results it is evident that none of the quadrant preferences were identified as factors in the factor analysis. It is however important to note that in a validity study done by Bunderson (1995:1), four discrete clusters of thinking preferences were identified (see Chapter 2). These scores, as obtained through the HBDI assessment (Appendix C), were therefore used to classify individuals into the preference categories.

The fact that no differences could be determined between the dominant quadrant groups could mainly be ascribed to two reasons:

- Only the dominant quadrants of the respondents were used for grouping respondents in the study. Many respondents are double dominant, triple dominant or quadruple dominant, which makes meaningful categorisation more difficult.

- The decision-making process is seen as a whole-brain process, with business people and entrepreneurs switching between the quadrants as determined by the situation.

Further research, however, should try to overcome the effect of other dominance scores. The conclusion could then be drawn that entrepreneurs move their thinking between quadrants, using a whole-brain approach when they make a decision to start, or in fact any decision regarding new venture creation.

### 7.3.4 The analysis of variance

The means between factors and the decision to start the venture based on the opportunity presented are as follows (see Table 6.17):

- A highly significant difference is reported for the factors misconceptions ($p < 0.0001$), and business risk perception ($p < 0.0001$) for the decision to start.
- A significant difference between the Illusion of control ($p < 0.05$) and the decision to start is reported.
- Self-efficacy did not report any significance ($p < 0.319$) for the decision to start or not start.

No significant difference was reported between the factors and gender (Table 6.19) or occupation groupings (Table 6.21). Although no significant difference was reported for the factors misconception and illusion of control between educational groups (Table 6.18), business owners tended to score higher on business risk perception, while entrepreneurship students tended to score much lower on business risk perception. It could be argued that business owners had already gained experience, which led to a different paradigm as well as an increased use of biases and lower use of misconceptions. Students' lower risk perception and lower illusion of control may be linked to lack of practical experience, although they believe themselves to have adequate theoretical knowledge. The use of students may therefore be seen as a limitation to the study.

People whose first language was an African language (Table 6.20) reported the highest misconceptions, with significant differences at $p < 0.01$. The same level of misconceptions is reported for other groupings. What this indicates is not clear, but it could involve areas outside those that this study attempted to investigate. For instance, culture may play a role in the perceptions and beliefs of individuals and may lead to certain culture-specific misconceptions.

### 7.3.5 Approximate line for the first viability thought

It is interesting to note that when reading the case study, 55% of the respondents decided that the business was viable (see Table 6.22) before line 60, and 80% of the respondents decided it was viable before line 90. It may therefore be argued that respondents did not use all the information in the case study to come to their decision. This supports the hypothesis that the respondents made use of heuristics and biases to make their decisions. What this entails is not clear but this aspect could warrant further investigation.

A variety of reasons were given as support for the decision to start or not to start the business (Table 6.24). The main reasons given for the decision to start was that it seemed to be a good, novel or innovative idea, product or secret formula (37%) and secondly the grass / raw material was readily available (17%). For the decision not to start the main reasons were that it was only a good idea, but not an opportunity (34%) and financially not viable (15%).

It is, however, also interesting to note that the focus group or expert panel gathered to decide if the opportunity was viable or not all made the decision that the opportunity was viable; in fact 85% of the focus group said that they themselves would definitely start the venture. The panel's decision to start was based on their own perceived ability to make it work. If one links this outcome to the opinion of Keh et al (2002: 131), quoting Shaver & Scott (1991), that entrepreneurs show an unusually strong preference for exerting control over their outcomes because they believe they can exert control over people and events, then the expert panel or focus group's decision may be seen as relevant. The

success factor as seen by the focus group was their ability to make the opportunity work.

### 7.3.6 Linear discriminant analysis

The linear discriminant analysis (Table 6.30) was used to classify the respondents into two categories, namely those starting and those not starting the venture, and to determine how well the factors could predict the decision to start or not to start the venture. The linear discriminant model could correctly predict 81.3% of the respondents deciding to start as well as 81.3% of the respondents deciding not to start the new venture opportunity.

### 7.3.7 Logistical regression analysis

In an attempt to enhance the probability of respondents starting the venture, the logistical regression model (Table 6.32) correctly predicted 96.5% of the respondents deciding to start the venture opportunity. Based on the above prediction results, the conclusion is drawn that the logistical regression model predicts the respondents that will start the venture better than the discriminant analysis model.

### 7.3.8 Revisiting the hypothesis

H1o Business risk perception does not influence the decision to exploit a venture opportunity.

Based on the empirical results the first null hypothesis is rejected and the alternative hypothesis accepted. Business risk perception has a highly statistically significant negative relation with the decision to start the venture (r = -0.58**). Few themes are as synonymous with entrepreneurship as risk. Entrepreneurs clearly accept higher levels of risk in their careers and business decisions than, for instance, managers or employees in business (Busenitz & Barney, 1997: 24).

Risk is also a particularly interactive concept (Gowda, 1999: 68), and therefore the relations between risk perception, illusion of control and misconceptions reported in this study are of relevance. The highly significant negative relations between business risk perception, the illusion of control (r = -0.34**) and misconceptions (r = -0.49**) indicate a higher use of cognitive mechanisms, resulting in a lower risk perception and therefore a greater likelihood of a decision to start a new venture opportunity.

H2o Misconceptions do not influence the decision to exploit a venture opportunity

Based on the empirical results, the second null hypothesis is rejected and the alternative hypothesis accepted. Misconceptions do have a highly statistically significant relation (r = 0.49**) with the decision to start the venture. A highly significant relation also exists between misconception and illusion of control (r=0.41**) as well as a highly significant negative relation between misconceptions and business risk perception (r = -0.49**). The results indicate that the more misconceptions an entrepreneur holds, the higher the illusion of control and the lower the risk perception, with a higher probability of a decision to start a new venture opportunity.

H3o Illusion of control does not influence the decision to exploit a venture opportunity.

Based on the empirical results the third null hypothesis is rejected and the alternative hypothesis accepted. Illusion of control has a significant statistical relation with the decision to start the venture (r = 0.33**). A highly significant relation also exists between the illusion of control bias and misconceptions (r = 0.41**), as well as a highly significant negative relation between business risk perception and illusion of control bias (r = -0.34**). It is suggested that the findings indicate that the illusion of control bias, due to the high relations with misconceptions, may lead to a lower business risk perception and therefore the

decision to start a new venture opportunity. The result of the illusion of control bias is that individuals may overemphasise the extent to which their skill can increase the venture's performance, which may lead to the belief that the entrepreneur can control the outcomes, leading in turn to the underestimation of risk (Keh et al, 2002: 131).

H4o Self-efficacy does not influence the decision to exploit a venture opportunity.

Based on the empirical results the fourth null hypothesis is accepted. Self-efficacy has no relation with the decision to start the venture. No evidence could be found that self-efficacy has a relation with misconception, business risk perception or the illusion of control bias. Although Shepherd & Krueger (2002: 171) quote Krueger & Brazeal (1994) as indicating that self-efficacy is positively associated with a new venture creation opportunity, no evidence of any relation could be found between self-efficacy and the decision to start a new venture opportunity.

H5o Information preferences as determined by HBDI do not influence the decision to exploit a venture opportunity.

Based on the empirical results the fifth null hypothesis is accepted. Information preferences as determined by HBDI thinking preferences have no relation with the decision to start the venture. No evidence could be found that respondents use only their dominant thinking preference in their information search to determine the start or non-start of a new venture opportunity.

## 7.4 Limitations of the study and recommendation

When interpreting the results of this study, cognisance should be taken of certain limitations experienced in the study. Further research regarding the decision to start or not start a new venture opportunity and the factors influencing such action

should be designed in such a way as to overcome some of the limitations of the present study.

The use of a convenience sample was a limiting factor due to the high cost of the HBDI profile. The study also failed to group respondents who have double, triple and quadruple quadrant preferences. They were all grouped as if single dominant, using only their highest dominance score. To be able to investigate the actual influence of thinking preferences (HBDI) on the decision to start a new venture opportunity, an instrument that can actually group different quadrant preferences meaningfully needs to be developed. The instrument used in this study failed to distinguish between respondents with single dominance scores and those with two or more high dominance scores.

Using students as part of the study was both a limiting and beneficial factor in this study. Being at university already implies a selection based on performance of the individual and does not represent the total population, but instead narrows the population down to those with a privileged position in society (Pretorius et al, 2004: 13). Markman et al (2002:150) also make a case against the use of students when attempting to understand cognitions of entrepreneurs. The only reason why students were seen as beneficial to the study was the fact that they have no experience in the entrepreneurial field, which might force them to make use of heuristics, biases and their information preference in their decision to start or not start the new venture opportunity.

A number of cognitive styles and other heuristics and biases were excluded from this study and could also be potentially relevant. This research only examined illusion of control, misconceptions, business risk perceptions and self-efficacy. Other cognitive factors and specific biases and heuristics already identified in the literature may also have an influence on or relation with the decision to start a new venture opportunity. Future research would need to examine other heuristics and biases to more completely explain the entrepreneur's decision to start or not start a new venture opportunity.

It is, however, important to recognise that a cognitive approach can enrich our understanding of the mental models that guide and shape an entrepreneur's decision-making processes. Research to determine the link between an entrepreneur's mental models and the decision to start or not start a new venture opportunity may be beneficial to the existing body of knowledge of entrepreneurial cognition. These applied benefits might aid in the development and design of techniques to assist entrepreneurs in various ways, such as helping them to avoid errors and pitfalls in order to make a more informed decision when starting a new venture opportunity.

One of the reasons for studying the role of mechanisms in entrepreneurship is to formulate means of holding in check errors stemming from cognitive mechanisms, so that decisions reached by the entrepreneur have an increased chance of success (Baron, 1998: 290).

The length of the questionnaire and the time it took to complete it was a definite limitation when dealing with entrepreneurs. All the entrepreneurs felt that the questionnaire was too long and time consuming to complete. A reduced questionnaire would really improve their willingness to participate. The respondents had already spent twenty to thirty minutes reading the case study before answering the questionnaire. The whole exercise took about one hour.

For the findings to be representative of a South African context, a wider geographical area and industry-specific owners / entrepreneurs should be targeted. To narrow the study down to industry-specific entrepreneurs would make a greater contribution to the entrepreneurial cognition field and the body of knowledge that exists. The generalisation of the results to owners / entrepreneurs in different types of industries should not be assumed.

## 7.5 Final conclusions

The major themes of this study can be summarised as follows:

(1) Entrepreneurs' thinking may differ from that of other persons, leading to a specific preference for a certain kind of information use (HBDI preference) when making the decision to start a new venture opportunity:

(2) Entrepreneurs may be more susceptible to various kinds of heuristics (short cuts) or biases (errors) than other people, which may lead to a lower risk perception and therefore a more likely decision to start a new venture opportunity:

(3) Misconceptions, the illusion of control bias and self-efficacy also act as cognitive mechanisms leading to a "rosier" view of a possible new venture creation opportunity, resulting in a lower risk perception and therefore the decision to start a new venture opportunity:

(4) The main focus of the study is on the decision to start or not to start the new venture opportunity and the influence of the factors as mentioned above on the decision to start or not. The entrepreneurial process in this study only deals with the decision to start and not the intention, resources or other activities involved.

A key aim of the study was to determine the relation between the decision to start / not to start a new venture opportunity and factors such as information used (HBDI preferences), business risk perception, illusion of control bias, misconceptions and self-efficacy. The study concludes that misconceptions, business risk perception and illusion of control, but not self-efficacy and information use (HBDI preferences), influence the decision to start the new venture opportunity

A reason for the finding that self-efficacy does not influence the decision to start the venture opportunity might be linked to the fact that although self-efficacy positively relates to the intent, intent does not necessarily imply action. According to Brigham & De Castro (2003: 66) who quote Chatman (1991), intentions have been linked to actual behaviour in person-organisation fit studies, but it should be acknowledged that intentions do not always translate into actual behaviour.

It is therefore interesting to find that although previous research determined that self-efficacy is high in the entrepreneurs' intent to start the venture opportunity, the conclusion based on the findings in this study confirms that intentions do not necessarily lead to action. Further research is necessary to determine whether expressed intentions ultimately lead to a specific action or behaviour.