



# Regulatory focus theory: the influence of media on opportunity recognition

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## Abstract

*This study explores the role of self-regulation in opportunity recognition by pioneering an investigation of the influence of two antecedent factors: chronic regulatory focus and media on opportunity recognition. 155 students participated in a two-stage experimental design that first measured chronic regulatory focus, and in the second stage primed situational regulatory focus through the use of media stories. Participants then engaged in an opportunity recognition exercise, identifying opportunities to apply the smart phone technology to the South African market. The measured outcome was the number and quality of opportunities identified. Findings did not yield a significant relationship of chronic regulatory focus and opportunity recognition as expected, but however demonstrate that media plays an influence in opportunity recognition. The potential role of motivational individual differences and prior knowledge factors in opportunity recognition highlighted in this study provide a broad array of opportunities for further research to advance the field of entrepreneurship.*

Key words: chronic regulatory focus, promotion focus, prevention focus, media, opportunity recognition

## Declaration

I declare that this research project is my own work. It is submitted in partial fulfilment of the requirements for the degree of Master of Business Administration at the Gordon Institute of Business Science, University of Pretoria. It has not been submitted before for any degree or examination in any other University. I further declare that I have obtained the necessary authorisation and consent to carry out this research.

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DINAH HANSON

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1<sup>st</sup> AUGUST, 2011.

## Dedication

For my dearest Nabby and my grandfather; the pain of your unexpected demise lingers on but to live in the hearts of those who love you is not to die.

...

For my parents; your endless love, sacrifice and firm guidance has moulded me into who I am today and who I aspire to be tomorrow. I can never thank you enough.

...

For my mentor, Dr. Adrian Saville; your unwavering support, encouragement and belief in my potential was a continuous source of inspiration along every step of my MBA journey.

...

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To God Be the Glory!

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*The entrepreneurial character of human action refers not simply to the circumstance that action is taken in an open-ended, uncertain world, but also to the circumstance that the human agent is at all times spontaneously on the lookout for hitherto unnoticed features of the environment (present or future), which might inspire new activity on his part.*

Israel Kirzner, 1997.

## CHAPTER 1: INTRODUCTION TO THE RESEARCH PROBLEM

### 1.1. Introduction

*"It's not the big that beats the small - it's the fast that beats the slow."*

Niklas Zennström, Skype founder (Tehrani, 2005)

Entrepreneurs change the world. The evolution of ground-breaking ideas such as, Henry Ford's invention of the assembly line for mass automobile production, and Steve Job's creation and growth of successful technology-based enterprises have spurred job creation, economic growth and transformed our lives. The above highlighted success factors are the end point of a dynamic entrepreneurial process that starts with an individual's ability to recognize opportunities.

Substantial research has been undertaken empirically to build theory and conceptual frameworks that define entrepreneurship, the entrepreneurial process and underlying factors that contribute to both. There are differing views and perspectives. Austrian economic theories focus on the role of information in opportunity recognition. Entrepreneurs possess information about opportunities that others do not have. Access to information plays a more crucial role in determining who becomes an entrepreneur than individual attributes such as ability or willingness to take action (Hayek, 1945; Shane, 2000). Psychological theories propose an opposing view, stating that it is the fundamental attributes of an individual, not information that determines who becomes an entrepreneur (Shane & Venkataraman, 2000; Shane, 2000). This research study proposes that both arguments are relevant; the driving forces of individual entrepreneurial action are not mutually exclusive.

Researchers, Shane and Venkataraman have focused on the discovery and exploitation of entrepreneurial opportunities. They have identified as one of the central questions of entrepreneurship, “why, when and how some people and not others discover and exploit entrepreneurial opportunities” (Shane & Venkataraman, 2000.p.218)? It is often argued that favourable environmental conditions underpin entrepreneurial action; however, environmental conditions do not explain why and how some of Africa’s greatest entrepreneurs; Aliou Conteh (Vodacom, Congo), Mo Ibrahim (Celtel, Africa) and Prince Kofi Amoabeng (Unique Trust Financial Services, Ghana) recognised entrepreneurial opportunities in macro environments that typically predict gloom and doom. Empirical testing of these antecedent-type relationships and how they interact to influence opportunity recognition has been limited. It is thus vital for entrepreneurship researchers to provide an understanding of the antecedent factors that lead to entrepreneurial opportunity recognition.

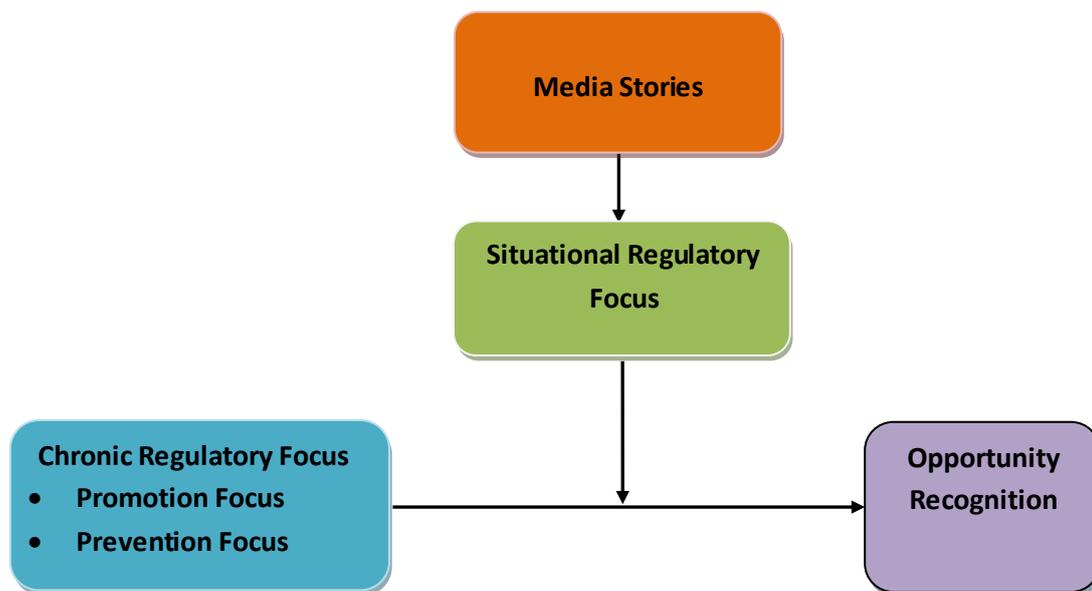
## **1.2. Research Objectives**

The focus of this research study is to explore the role and interaction of two antecedent factors: (1) prior knowledge, and (2) the motivation of an individual, and the consequent influence on opportunity recognition. Some researchers have explored prior knowledge (Ardichvili, Cardozo, & Ray, 2003; Shane, 2000) and others have looked at motivational influences (Shane, Locke, & Collins, 2003). However, “this specialized approach may exclude valuable findings that can only be captured by examining knowledge and motivation simultaneously” (McMullen & Shepherd, 2002).

Media stories on the macro environment are defined as a source of prior knowledge and this study adopts Higgins’s (1997) regulatory focus theory as the underlying

principle of an individual's motivation. More specifically, as illustrated in Figure 1.1 below, this study seeks to establish the media as an antecedent driver of opportunity recognition and to explore the role of self-regulation in opportunity recognition.

Figure 1.1: Conceptual framework for the research study



### 1.3. Theoretical Basis for Research

#### Regulatory Focus Theory

The hedonic principle states that people are motivated to approach pleasure and avoid pain. Regulatory focus underlies the hedonic principle but has different motivational outcomes. Regulatory focus theory distinguishes between two types of desired end states: (a) *Promotion focus*, in which self-regulation is concerned with the presence and absence of positive outcomes, advancement, aspirations and accomplishments and (b) *Prevention focus* in which self-regulation is concerned with the absence and presence of negative outcomes, protection, safety and responsibilities (Higgins, 1997).

Parenting styles, demonstrate the role of promotion and prevention focus. Parents emphasize promotion focus ideals when they encourage children with rewards to meet desired end states such as high grades and withdraw the rewards when desired end states are not met. Parents emphasize prevention focus ideals by criticizing or punishing children when they fail to meet desired end states (Higgins 2002).

Differences in decision-making could also occur as a function of regulatory focus. Regulatory focus is both chronic: individual trait differences in people, an orientation developed at an early age through interaction with caregivers and reinforced over time and context, and situational: induced by situations and tasks varying regulatory focus concerns. For example an employer can offer reward incentives for tasks well accomplished by an employee and withdraw these incentives when the task is not completed to satisfaction; this primes a promotion focus with the employee motivated to accomplish tasks to perfection. An employer can reprimand or punish an employee when a set task is not completed and fail to acknowledge when a task is well accomplished; this primes a prevention focus with the employee just doing the minimum to avoid punishment.

Higgins (2002) argues that decisions are motivated and people are motivated to make decisions that produce positive outcomes. The same outcome can have different subjective value to different people or to the same person at different times. Thus depending on whether an individual is in a promotion or prevention focus state influences decisions on what constitutes an entrepreneurial opportunity, and subsequently the ability and willingness to take action on recognised opportunities.

## Opportunity Recognition

The second theoretical perspective is opportunity recognition, however it is important to clarify what constitutes an entrepreneurial opportunity before defining opportunity recognition.

Eckhardt & Shane (2003) define entrepreneurial opportunities as “situations in which new goods, services, raw materials, markets and organizing methods can be introduced through the formation of new means, ends, or means-ends relationships.” Schenkel (2005) proposes that an entrepreneurial opportunity is “any potential form of new enterprise that is perceived to be feasible, and seeks to profit from some un- or underserved market need.” These two definitions highlight an entrepreneurial opportunity as something new, whether a process, good or service translating into a desired end.

Opportunity recognition can in turn, be defined as “the cognitive process (or processes) through which individuals conclude that they have identified an opportunity” (Baron, 2006).

These theoretical perspectives, which will be discussed in detail in chapter two, serve as the basis of entrepreneurship research that explores the antecedent factors of opportunity recognition.

### 1.4. Contributions of the research

This study provides a pioneering contribution to the field of entrepreneurship research. The study aims to push beyond the boundaries of current entrepreneurship research, especially within an African context where few empirical studies of this nature exists by testing existing theory and exploring new ground.

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The outcomes of this research can be relevant to multiple perspectives: entrepreneurs, academic institutions and public policy. Entrepreneurial opportunity recognition is the foundation of entrepreneurial activity. For entrepreneurs, understanding the process of opportunity recognition provides important considerations for the next steps of opportunity evaluation and entrepreneurial decision-making, particularly in difficult macro-environments.

For academic institutions, understanding the underlying cognitive processes of opportunity recognition informs pedagogical approaches to entrepreneurship curricula to mitigate the effects of drivers of entrepreneurial inaction. Findings can contribute to entrepreneurship education teaching objectives and outcomes; instructors can incorporate specific case studies and teaching materials that serve as primes to foster opportunity recognition for students. From a public policy perspective, to make a country entrepreneurial, one must determine what stimulates people to recognize entrepreneurial opportunities. Baumol articulates this well, 'In a growth conscious world, I remain convinced that encouragement of the entrepreneur is the key to the stimulation of growth' (Baumol, 1993, p.71).

The potential findings of this study can also extend beyond advancing research in entrepreneurship to practical applications in business and society. For example, marketing communication messages can be framed to elicit the desired responses from customers; employers can also strategically select information to prime self regulatory states of employees to encourage employee motivation and innovation in the work place. The potential for wider applications of research findings further strengthens the rationale for this study.

## CHAPTER 2: LITERATURE REVIEW

### 2.1. Introduction

The purpose of this chapter is to provide a discussion of opportunity recognition and regulatory focus theory, both its theoretical foundations and its empirical applications, and to summarize the relevant literature. The effect of media on perception is also discussed with an examination of extant research done in this field. This chapter aims to show that whereas there is a growing body of literature in this field of entrepreneurship research, much work remains to be done in building a holistic framework that incorporates regulatory focus and opportunity recognition. This chapter lays the foundation for empirically investigating the strength of the relationship between the two concepts, the underlying influences, and entrepreneurial and societal implications.

### 2.2. Opportunity Recognition Literature Review

This section explores the field of opportunity recognition research by firstly identifying the theoretical perspectives and discussions that are most critical to opportunity recognition. These theoretical perspectives are then analysed to explore how opportunity recognition has been empirically measured, highlighting key findings and possible knowledge and research gaps, and relating findings to the research objectives of this study.

## 2.2.1 Theoretical Perspectives

### The concept of opportunity recognition

Opportunity recognition is the preliminary stage of the entrepreneurial process, followed by viability screening and the necessary steps to develop these recognised opportunities (Baron, 2004). Various researchers have discussed opportunity recognition as part of a broader process with the proposition that only when an idea has passed the feasibility test- value proposition, market for a product or service, return on investment, and been launched as a venture or new offering, does it become entrepreneurial action (Brockner, Higgins & Low, 2004; McMullen, 2003).

As explained in chapter one, the focus on opportunity recognition is not because it is an end in itself but because an individual's ability to brainstorm or identify viable entrepreneurial ideas i.e. opportunity recognition is the pivotal first step in the process of venture creation and performance. Thus, for the purposes of this study opportunity recognition is defined as, and limited to, an individual's ability to identify viable entrepreneurial ideas. The concept of opportunity recognition will be measured by the number and quality of opportunities identified.

### Entrepreneurial Alertness

Entrepreneurial alertness serves as the primary theoretical framework in opportunity recognition research. It draws attention to the cognitive processes that lead to the cited differences in perception between alert and non-alert individuals. Busenitz discusses the theoretical implications of researching entrepreneurial alertness that puts this study's objectives into context: "Since changes at the macro level usually bring with

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them new opportunities, an examination of attitudes toward macro-level changes and uncertainty may yield important contributions to the future development of the alertness concept” (Busenitz, 1996, p.43).

Kirzner (1979, 1985, 1992) introduced the concept of entrepreneurial alertness which “refers to an attitude of receptiveness to available (but hitherto overlooked) opportunities.” Alert and non-alert individuals differ in the types of decisions made in the context of the environments they operate in. Entrepreneurial alertness is not an individual attribute in itself, but as a result of favourable environmental conditions combined with the knowledge individuals possess to make decisions, acted upon (McMullen, 2003). Non-alert individuals fail to identify or create entrepreneurial opportunities because of an inaccurate assessment of their market environment and the kind of decisions needed to be made (Gaglio & Katz, 2001).

Gaglio & Katz (2001) further propose that alert individuals activate a schema that guides their perception and information processing to be able to identify and accurately assess subtle market cues. However, non-alert individuals also engage in decision-making that requires an accurate assessment of the situation. For example, non-alert individuals like everyone else would have to decide how to allocate resources based on an accurate assessment of market conditions. The question then is in the case of entrepreneurial opportunities, what schema is the non-alert activating that interferes with or prohibits an accurate assessment of the situation?

Another view argues that the level of entrepreneurial alertness is likely to be heightened in the presence of several factors: certain personality traits, relevant prior

knowledge and experience, and social networks. Personality traits like creativity and optimism and knowledge based either on special interest or experience in a specific product and customer market are critical determinants of this alertness. Social networks characterized by weak or strong ties, partnership and existence of an inner circle also play a role. Finally, the influence of all the above cited factors in the alertness process is shaped by the type of opportunity (Ardichvili et al., 2003).

This view of entrepreneurial alertness addresses a wide range of possible antecedent factors that determine the alertness of an individual. What has not been addressed is whether the level of entrepreneurial alertness of an individual will change under the immediacy of situational cues. Social networks, knowledge and personality traits are formed over the course of time through an individual’s life journey and experiences. Whilst this perspective remains critically important, it will be insightful to understand how everyday occurrences influence an individual’s developed orientation or ‘heightened alertness’.

**Table 2.1: Summary of conceptual views on entrepreneurial alertness**  
(Adapted from (Short et al., 2010; Tang, Kacmar, & Busenitz, 2010 )

Article	Contribution to understanding the ‘Entrepreneurial Alertness’ Concept
<b>Kirzner</b>	Introduced the concept of entrepreneurial alertness which refers to an attitude of receptiveness to available (but hitherto overlooked) opportunities. The difference between alert and non-alert individuals lies in the different decisions they make about their current circumstances.
<b>Gaglio &amp; Katz</b>	Alert individuals activate a schema that guides their perception and information processing for an accurate assessment of situations
<b>Ardichvili, Cardozo, &amp; Ray (2003)</b>	Personality traits, social networks, and prior knowledge are antecedents to the entrepreneurial alertness needed to recognize, evaluate, and develop opportunities

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## **Pattern Recognition**

Individuals recognize opportunities because their cognitive frameworks enable them “connect the dots” between what may appear to be isolate changes and trends (Baron, 2004b). In his work, Baron looks at opportunity recognition from a cognitive perspective and seeks to integrate cognitive factors into a concept of pattern recognition. Pattern recognition, as applied to opportunity recognition, describes how individuals perceive patterns between seemingly unrelated events and changes which then serve as the basis for opportunity identification. Entrepreneurs “connect the dots” between changes in the macro environment: technology, demographics, markets, government policies, and other factors in the process of new venture creation (Baron, 2006).

Pattern recognition is a possible explanation for why some people, not others discover entrepreneurial opportunities. Baron presents prior knowledge and experience as the major influence on cognitive frameworks which when combined in a process of pattern recognition lead to opportunity identification. Baron’s work in pattern recognition grounded in a cognitive perspective is an important contribution to the field.

## **Prior knowledge and Opportunity Recognition**

Venkataraman (1997) refers to a ‘knowledge corridor’ that allows individuals to discover certain opportunities. An individual uses this knowledge corridor as an existing frame of reference with which to assess the potential benefit in an opportunity. Shane (2000) proposes three major dimensions of prior knowledge that are important to the process of entrepreneurial discovery: prior knowledge of markets, prior knowledge of

ways to serve markets, and prior knowledge of customer problems. Prior knowledge of markets and ways to serve markets influences discovery of which markets to enter, and how to use a new technology to serve a market, thus the most closely linked to the attributes of opportunity recognition. Prior knowledge of customer problems delves into products and services innovation to build new value propositions within existing opportunities.

Building on the above explorations in the field of opportunity recognition, further research must probe deeper into the inter-linkages between the antecedent factors of opportunity recognition. This study proposes that an individual's self-regulatory focus which reflects motivational influences is what translates prior knowledge and cognitive frameworks into an entrepreneurial decision (opportunity recognition).

### **2.3. Media and Perception**

Mass media has great power to disseminate information and form public opinion. It is important however to acknowledge that perception is affected by a vast array of factors; whereas this study hypothesizes that media coverage plays a role in an individual's perception of an opportunity, this is not the only factor. However, it is worth isolating the role of media due to its relative strength, as evidenced by the empirical findings reviewed in this section. This study seeks as a research objective to explore the strength of the relationship between media influence, regulatory focus theory and opportunity recognition, citing media stories which prime an individual's situational self-regulatory state, as an antecedent factor in opportunity recognition.

This section first provides a review of the major theoretical frameworks in behaviour and communication science research that relate to the influence of media on public perception. An analysis is then provided of empirical studies that explore the effects of the media in relation to societal concerns central to the public agenda: the economy and health.

### **2.3.1. Media Effects Models: Agenda Setting & Framing**

#### *Agenda Setting*

The initial stage in the process of shaping public opinion is when an issue emerges which is determined by agenda setting. This theory proposes that the more emphasis the media places on certain issues, the more importance the public attributes to these issues. The mass media knowingly exploits this correlation to their advantage with sensational headlines, cover stories, breaking news or amount of coverage of an issue (McCombs & Shaw, 1972).

In essence, the media tells us what to think about (McCombs, 1977). Agenda setting is critical because the knowledge that most people possess about issues on the public agenda such as politics and the macro environment are beyond immediate, personal experience, hence the media is able to influence perception on these issues through placement and the nature of coverage. Agenda setting provides a theoretical basis for this study's proposition that the media is a source of information for the prior knowledge that informs opportunity recognition decisions.

### *Framing*

Framing is based on the assumption that how issues are described and captured in news reports influences how these issues are understood by audiences (Scheufele & Dietram, 2007). Messages can thus be framed positively or negatively (Aaker & Lee, 2004). Framing provides in some ways a deepened perspective on agenda setting as once the media tells us what to think about, the messaging of the content then tells us how to think about it. The thinking process resulting from a frame can incline the recipient towards a particular line of reasoning or outcome (McCombs, Granem, 2001).

This study uses message framing to measure the differential effects of media: a media story on the macro environment in South Africa is framed as a positive media story and the same message framed as a negative media story. The argument is the positive media story and the negative media story can arguably prime situational self-regulatory focus, promotion and prevention focus respectively in an individual.

### **2.3.2 Media Coverage, Public Perception & the economy**

Ju (2008) conducted a study that investigated whether negatively biased news coverage of the economy was present in South Korea. Ju (2008) indicates that several studies have found that public perception of the economy is closely associated with the news media's economic coverage (Blood & Phillips 1995; Hester & Gibson 2003; Wu, Stenvson, Chen & Guner, 2002).

The study compared the magnitude of the effect of the media's economic news coverage on Koreans' perception of the economy with that of the effect of real economic conditions. Results of the South Korean study were consistent with the

general expectation that people form a perception of the economy more by economic news than by reviewing actual statistical data or directly feeling the effect of unemployment or changes in consumer prices that statistical data would normally indicate (Ju, 2008).

These findings are important because it provides support for this study's proposition that media stories form a core component of the prior knowledge and information that leads to opportunity recognition.

### **2.3.3. Media and Health**

Health issues receive prominent coverage in the media, due understandably, to the central role health concerns play in our lives. Carducci, Alfani, Sassi, Cinni and Calamusa (2010) conducted a study to examine the impact of mass media on citizens' knowledge and perception of health risks. Quantitative and qualitative analysis was conducted of articles in Italy's three most popular newspapers from 1999 to 2008. The articles provided epidemiological data on food-borne disease, revealing several information peaks definable as 'communication storms.'

Surveys were conducted to assess the influence of the 'communication storms' on perception of health risks. 60-70% of people surveyed declared having changed their food habits, at least temporarily as a consequence of media information on avian flu, BSE and dioxin. 52% get their information on food safety mainly from television and newspapers. Newspaper articles facing food related hazards tend to be alarming thus affecting the citizens risk perception. This provides credence to the argument that

media stories influence risk perception which in turn impacts decision- making by individuals.

## 2.4. Regulatory Focus Literature Review

Regulatory Focus theory provides a theoretical framework rooted in the field of social psychology that can be used to examine the motivational aspects of opportunity recognition. The review of research done in opportunity recognition evidences the emphasis on prior knowledge and cognitive frameworks; a gap remains for research to examine and empirically test motivational influences on the opportunity recognition process. McMullen raises the pertinent question in his thesis, “The *ability* to act must be accompanied by a *willingness* to act. Why are some people more willing to act than others? And, could this be explanatory of why some people and firms recognize and exploit opportunities whilst others do not?” (McMullen, 2003, p.8).

This section takes a critical look at regulatory focus theory by firstly identifying important theoretical perspectives. The applications of regulatory focus theory are then explored to provide empirical support for the study’s hypotheses that distinguishing between a promotion and prevention focus in self regulation can help predict or explain opportunity recognition decisions.

### 2.4.1. Theoretical Perspectives

#### Moderation of the Hedonic Principle

Regulatory Focus Theory falls in the field of motivational psychology research. Empirically, the hedonic principle which states that people are motivated to approach pleasure and avoid pain, has dominated scholars understanding of people's motivation (Higgins, 1997). Higgins asserts this approach has been over emphasised and what researchers must probe is the underlying approach-avoidance principles that underlie the hedonic principle and their motivational significance.

Higgins proposes that the hedonic principle is moderated by a principle of self-regulation called regulatory focus. Self-regulation is the manner by which people approach desired end states. There are two types of self regulation: nurturance-related regulation which involves a promotion focus and security- related regulation which involves a prevention focus. People are motivated to approach desired-end states which could be either promotion-focus eagerness in aspirations and accomplishments or prevention focus vigilance in responsibilities and safety.

Another difference in self regulation is the approach inclinations of the two regulatory states; promotion focus involves a sensitivity to positive outcomes (their presence and absence), thus approaching matches to desired end states is the strategy for a promotion self regulation. In contrast, a prevention focus involves a sensitivity to negative outcomes (their absence and presence), thus avoiding mismatches to desired end states is the natural strategy for prevention self-regulation (Higgins, 1997). This

study investigates the role promotion and prevention focus self-regulatory states play in an individual's approach to opportunity recognition.

### **Regulatory Focus: Chronic vs. Situational**

Self-regulatory states can be measured as chronic or situational variables. Chronic regulatory focus is defined by personality- individual trait differences in people; this orientation is developed at an early age through an individual's innate predisposition, interaction with caregivers and reinforced over time and context in environments such as school and social settings. Chronic regulatory focus takes the developmental path of the nature-nurture debate; both innate traits and the external environment contribute to this regulatory state.

Situational regulatory focus is induced by situations and tasks varying regulatory focus concerns. This is primed over a relatively shorter period of time; an example would be the influence of leader regulatory focus on employee creativity. Regardless of an employee's chronic regulatory focus, an organizational leader with whom the employee interacts heavily – a direct supervisor, for example – and whose behaviour is perceived as highly promotion-focused is likely to elicit a matching promotion-focused state in the employee. This promotion-focused state then increases the likelihood of creative behaviour. In contrast, a direct supervisor whose behaviour is perceived as highly prevention-focused is likely to elicit a matching prevention-focused state in the employee, making him or her less likely to engage in creative behaviour (Wu, McMullen, Neubert & Yi, 2008).

A number of studies have manipulated participants' regulatory focus successfully (e.g., Crowe & Higgins, Friedman & Forster, 2001; Haws, Bearden & Dholakia, 2011; McMullen, 2003; Wu et al., 2008) . This establishes that regulatory focus can be both chronic and situational and demonstrates that it can be evoked intentionally.

### **Regulatory Fit**

Empirical studies raise a discussion on the concept of regulatory fit and its relation to desired outcomes. Regulatory fit theory suggests that matching a chronic regulatory focus orientation with the means used to approach a desired goal produces a state of regulatory fit that not only increases task engagement and the value of the outcome but also creates a feeling of rightness about the goal pursuit (Higgins, 2000, 2005). This suggests that the best outcome will be achieved when elicited behaviour is matched with the corresponding promotion focus state or prevention focus state of the individual. The concept of regulatory fit provides the theoretical rationale for the study's prediction that chronic regulatory focus will interact with media stories to influence opportunity recognition.

Avnet & Higgins (2006) espouse that when people pursue a goal in a manner that sustains their chronic orientation i.e. promotion focus or prevention focus, they experience their engagement in that goal pursuit more strongly than they do when pursuing the goal in a way that is at odds with or disrupts their orientation. They examined value from fit in their study and found that people were willing to pay more for a product when the product matched their regulatory orientation.

This study investigates whether matching positive and negative media stories with the corresponding chronic regulatory state of the individual positively influences the desired outcomes for opportunity recognition of number and quality of opportunities identified.

#### **2.4.2. Regulatory Focus Theory and Relevant Current Applications**

##### *Regulatory Focus and Risk-Taking*

Research indicates that eagerness stemming from promotion focus naturally elicits a tendency towards risky choices, whereas vigilance stemming from prevention focus naturally elicits a tendency towards safe choices (Higgins, 1997).

Hamstra, Bolderdijk and Veldstra (2010) undertook research to shed light on the determinants of risk taking in everyday life, looking at risk taking and safe behaviour in traffic. Given the potential adverse consequences of risk taking in traffic such as fines, legal issues and accidents, this is a highly relevant context for studying individuals' risk taking tendencies.

The study uses regulatory focus theory to explain why individuals differ in their risk taking tendencies. Global Positioning System (GPS) tracking of car drivers' actual speeding behaviour was employed to look at risky behaviour as it naturally occurs in situations with possible serious consequences. It was found that promotion focus was positively related to the proportion of distance travelled above the speed limit, whereas prevention focus was negatively related to the proportion of distance travelled above the speed limit. Results were consistent with the study's hypothesis

that promotion focus is positively related to risk taking, whereas prevention focus is negatively related to risk taking.

These empirical findings highlight the role of the self regulatory state in opportunity recognition that this study seeks to explore. Promotion focus is likely to be positively related to opportunity recognition in terms of the number of opportunities identified as the promotion focused individual with the desired end of opportunity recognition in mind, is likely to be willing to take more risks in achieving this goal by identifying as many opportunities as possible.

#### *Regulatory Focus and Financial Risk Aversion*

Promotion and prevention-oriented personality traits can help explain financial risk aversion attitudes. Franklin (2007) investigated whether and how regulatory focus theory is related to financial risk aversion measures of loss aversion (people's tendency to weight losses more than gains), risk aversion (people's tendency to prefer guaranteed gains over probabilistic gains of higher expected value) and uncertainty aversion (people's tendency to prefer known outcomes over indeterminate outcomes). The results found an inverse relationship between regulatory focus and total risk aversion: an individual's financial risk aversion decreased as his/her promotion focus increased or conversely, increased as his/her prevention focus increased.

An individual's measure of the level of financial risk, and access to financial resources is a key consideration in recognizing an opportunity. If the macro-environment presents difficult conditions such as high interest rates for borrowing and difficulty in raising capital, these factors then influence the opportunity recognition process. Thus studies

investigating the relationship between regulatory focus and financial risk aversion provide empirical support for this study.

### *Regulatory Focus and Entrepreneurial Alertness*

Tang (2009) relates the entrepreneurial alertness concept in opportunity recognition research to regulatory focus theory by a focus on the understanding of the motivational principles that play a vital role in an individual's alertness. Results show that the extent to which individuals perceive their environment as friendly or hostile inhibits or enhances their ability to identify opportunities. The analysis suggests that when promotion focused, entrepreneurs' achievement motivation and internal locus of control are positively related to their level of alertness.

### *Regulatory Focus and Venture Performance*

Hmieleski and Baron (2008) examine regulatory focus theory and venture performance. Viewing entrepreneurial opportunities in a creation context (characterized by uncertainty and dynamic business environments), they argue that a promotion focus will be the most effective self-regulatory mode for entrepreneurs leading their firms within dynamic industry environments. In creative contexts, promotion focus enables a focus on achieving gains and maintaining flexibility which enhances new venture performance, whereas prevention focus enables a focus on preventing losses and being rigid toward change which significantly reduces performance.

Overall, the findings suggest that entrepreneurs' self-regulatory mode (prevention or promotion) does indeed have important implications for the performance of their

firms, or more broadly, entrepreneurs' degree of cognitive fit with the context of opportunity exploitation in which they operate does matter where new venture performance is concerned.

Regulatory focus and new venture performance is an appropriate conclusion to this section. Research findings that indicate self-regulatory modes have implications for venture creation and performance, central to the field of entrepreneurship, further highlight the need for researchers to empirically test motivational influences on the entrepreneurial process, to expand the contribution of entrepreneurship research to this important area.

## 2.5. Chapter Summary

The literature review into the areas of opportunity recognition and regulatory focus theory demonstrates that researchers must continue to engage in in-depth exploration and testing of these concepts to establish the impact on the entrepreneurial process.

Specifically the review has captured three important points: (1) whereas important concepts and frameworks have emerged in opportunity recognition, current research falls short of integrating findings into a holistic conceptual framework that reflects both motivational and cognitive influences on opportunity recognition. (2) media is a major source of information and the framing of media messages influences public perception and consequently decision making and (3) current applications of regulatory focus theory evidence the need to explore further the role of motivational influences in the opportunity recognition process.

This study expands empirical research by developing and testing a conceptual framework that uses regulatory focus theory to demonstrate the influence of the media on opportunity recognition. The literature reviewed provides the necessary context and strong rationale for the objectives of this study.

## CHAPTER 3: RESEARCH HYPOTHESES

### 3.1. Introduction

This chapter begins with a definition of the constructs that are the basis of the hypotheses to be tested. It presents the conceptual framework and specifies the hypotheses to be tested based on a discussion on the factors influencing opportunity recognition decisions and the interaction effects of media and regulatory focus.

### 3.2. Definition of constructs

*Chronic Focus:* This is an individual's trait-based self-regulatory state and is classified as either a chronic promotion focus or a chronic prevention focus state (Higgins, 1997).

*Media Stories:* Media is defined as electronic news media for the purposes of this study. This is further classified into positive media stories and negative media stories. Media stories are the primes for situational regulatory focus.

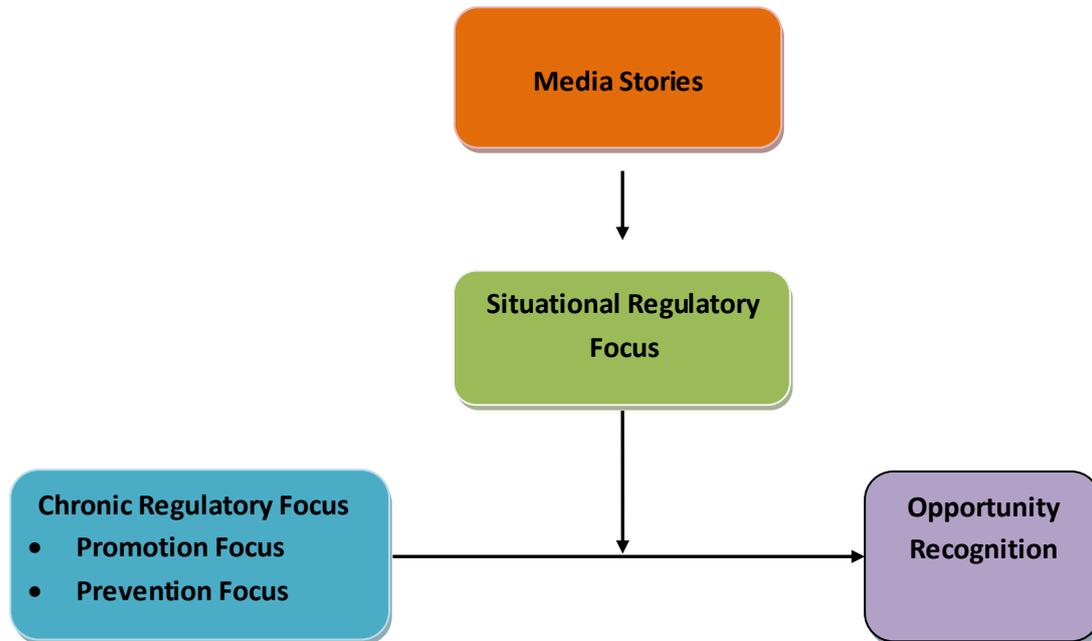
*Outcome/Dependent Variable:* The outcome is opportunity recognition and is measured by (1) the number and (2) the quality of opportunities. Quality will be assessed by a panel of three judges, who will rate quality of identified opportunities on a five-point Likert scale anchored with strongly disagree and strongly agree.

#### 3.2.1. Conceptual Framework

The conceptual framework below proposes that (1) chronic regulatory focus influences opportunity recognition (2) media stories have a moderating effect on the impact of chronic regulatory focus on opportunity recognition and (3) chronic regulatory focus

and situational regulatory focus (primed by media stories) interact to form a positive or negative relationship that influences opportunity recognition.

**Figure 3.1: Conceptual Framework for the research study**



### 3.3. Research hypotheses

#### 3.3.1. Chronic regulatory focus and opportunity recognition

Opportunity recognition decisions require two levels of analysis: (1) the number of opportunities recognised and (2) the quality of identified opportunities. Opportunity recognition decisions will vary based on the chronic regulatory state of an individual; promotion versus prevention focus because the underlying motivations, the nature of goals or standards and what constitutes a successful outcome are different (Brockner, Higgins & Low, 2004). Individuals will engage in self-regulation to achieve desired ends.

Based on this argument, it is hypothesized that chronic regulatory focus will influence opportunity recognition such that:

**Hypothesis 1a:** *An individual's chronic regulatory focus will be significantly related to the number of opportunities identified.*

**Hypothesis 1b:** *An individual's chronic regulatory focus will be significantly related to the quality of opportunities identified.*

### 3.3.2. Media and opportunity recognition

Context can activate promotion and prevention focus, making it temporarily more accessible (Higgins, 1997). Research findings demonstrate the instrumental role the media plays in defining context through agenda setting and shaping public opinion and reaction; the media tells us what to think about and how to think about it. This role of the media strengthens the argument that media stories become a prime for an individual's self-regulatory state, priming an individual to be promotion or prevention focused.

The above discussion leads to the prediction that media stories will influence opportunity recognition, such that:

**Hypothesis 2a:** *Media stories will be significantly related to the number of opportunities identified.*

**Hypothesis 2b:** *Media stories will be significantly related to the quality of opportunities identified.*

### 3.3.3. Chronic and situational regulatory focus interaction

Researchers investigating chronic-situational regulatory focus interaction suggested an approach of examining the “efficacy of situational manipulations under conditions

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where the individual's chronic regulatory orientation levels are either consistent or inconsistent with the situational manipulations" (Haws et al., 2011). It is also proposed that the interaction between individuals and the environment is critical in the opportunity identification and exploration process (Shane & Venkataraman, 2000).

Consequently, it is hypothesized that the interaction between chronic and situational regulatory focus influences the outcome of opportunity recognition. The information on the macro environment from the media increases temporarily the accessibility of knowledge units in the memory of an individual which makes it more likely that these knowledge units are used in the reception, interpretation and judgement of entrepreneurial opportunities. The media in effect is a source of situational regulatory focus; a positive media story is a prime for promotion focus and a negative media story is a prime for prevention focus.

An individual's chronic regulatory focus (promotion and prevention focus) will interact with situational regulatory focus (media stories), such that:

**Hypothesis 3a:** *Chronic regulatory focus will interact with media stories such that an individual in a promotion focus state exposed to a positive media story will identify a higher number of opportunities.*

**Hypothesis 3b:** *Chronic regulatory focus will interact with media stories such that an individual in a promotion focus state exposed to a positive media story will identify opportunities of a lower quality.*

**Hypothesis 3c:** *Chronic regulatory focus will interact with media stories such that an individual in a prevention focus state exposed to a negative media story will identify a lower number of opportunities.*

**Hypothesis 3d:** *Chronic regulatory focus will interact with media stories such that an individual in a prevention focus state exposed to a negative media story will identify opportunities of a better quality.*

## CHAPTER 4: RESEARCH METHODOLOGY AND DESIGN

### 4.1. Introduction

Chapter four begins with a discussion of the research design and sample. It then discusses key measures of theoretical constructs and the procedure. Finally, the chapter concludes with a description of the statistical methods of analysis performed in this study.

### 4.2. Research Design

This study used an independent-measures 2x2 factorial experimental design. Experimental design was the method used in other studies exploring applications of regulatory focus (Aziz & Foo, 2007; Crowe & Higgins, 1997; Friedman & Forster, 2001; Haws et al., 2011); and the opportunity recognition process (Baron & Ensley, 2006; Dimov, 2007; Grichnik, Smeja, Welp, 2010). An experimental design also allowed for the inference of causality. An independent-measures design was chosen because participants could only take part in one condition due to practice effects that would affect the outcome of the experiment. This design was further classified into a 2 (self regulatory focus: promotion focus; prevention focus) x 2 factorial design (media: positive media; negative media).

In stage one of the experiment, participants were first tested for chronic regulatory focus using the Composite Regulatory Focus Scale (Haws et al., 2010). In stage two, participants were then randomly assigned to read either positive media stories or negative media stories. This resulted in a total of four different groups, each group representing a unique permutation of the independent variables. The random assignment of participants to groups controlled for potential influences on their

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behaviour such as prior knowledge and experience. To avoid confounding variables, it was made sure that the positive and negative media stories contained the same information and only the framing of the information differed. The dependent variable was opportunity recognition measured in terms of (1) the number of opportunities recognised and (2) the quality of opportunities recognised, as rated by a panel of judges.

#### 4.2.1 Variables and Measures

##### Chronic Regulatory Focus

The Composite Regulatory Focus Scale was used to measure chronic regulatory focus. It comprises ten items, drawn from the most widely used measures for testing chronic regulatory focus: Regulatory Focus Questionnaire (RFQ), General Regulatory Focus Measure, and the BIS/BAS Scale (Carver & White, 1994; Higgins et al., 2001; Lockwood et al., 2002). The Composite Regulatory Focus Scale covers the important aspects of regulatory focus theory, including distinguishing between approach and avoidance within each regulatory focus (RFQ items), describing key concepts such as ideal and ought selves in the measures (Lockwood items), and measuring self-regulation for promotion and prevention focus; they include both cognitive and emotional measures (BIS/BAS items) to provide a broad-based assessment; and they use items that are past, present, and future oriented (Haws et al., 2010).

The composite scale performs well on all tests. The reliability of the promotion focus subscale is .79 and that for the prevention focus subscale is .74. A CFA reveals good fit to the two-factor model and a phi coefficient of .29, indicating a moderate positive correlation between the promotion and prevention factors. The test-retest reliability

analysis reveals a coefficient of stability of .67 for the promotion focus subscale and .64 for the prevention focus subscale (Haws et al., 2010).

### **Opportunity Recognition**

The dependent variable was opportunity recognition measured in terms of the number of opportunities recognised and (2) the quality of opportunities recognised, as rated by a panel of three judges. The three judges were all final year MBA students with years of experience in business and social entrepreneurship. Scores were computed for (1) the number of opportunities a person generated and (2) an average of the three quality of opportunity scores for each participant.

**Control Variables:** Control variables used in this study include: age (in years); gender, (“male” = 0, “female” = 1); education (all respondents are at A-Level). These variables were chosen based upon their potential for impacting study results.

#### **4.2.2. Sample**

To test the hypotheses of this study, a sample of 155 African Leadership Academy students was used. The rationale for focusing on the chosen sample was (1) all students at the Academy study entrepreneurship with the main objective of equipping them with the skills and mindset to identify and execute on entrepreneurial opportunities in Africa; (2) students at the Academy through their entrepreneurship experiential training have ‘prior experience/knowledge’ in assessing entrepreneurial opportunities thus strengthening ecological validity because the intervention represents a realistic analogy of a context/framework for identifying entrepreneurial opportunities.

The sample frame was defined by approaching the Founders and Entrepreneurship Department of the African Leadership Academy. Permission was sought to assemble students in the auditorium for a mandatory entrepreneurship exercise.

#### **4.2.3. Pre-test**

Four media stories reflecting the macro-environment of South Africa were created through actual stories sourced from electronic media. Two of the media stories were framed positively and the other two were framed negatively. The framing of the four media stories was then tested with a random sample of nineteen people, primarily MBA students at the Gordon Institute of Business Science.

Respondents were asked to rank whether the media stories were positive or negative using a seven-point Likert scale anchored with end points strongly positive and strongly negative. This pre-test was to ensure validity of the manipulation between positive and negative media. Responses revealed that both media stories which were framed positively were considered positive by the sample. 87.5% considered one of the two stories to be positive and strongly positive, with 75% considering the other story positive and strongly positive. The story with the ranking of 87.5% was thus selected to be used as the positive media story for stage two of the experiment.

For the stories framed negatively, only 5.3% considered one of the two stories to be somewhat negative, with the remaining responses ranging from somewhat positive to strongly positive. For the other negatively framed story, respondents had mixed feelings; 62.7% considered the story somewhat negative to strongly negative; 31.3% considered the story somewhat positive or positive. Based on these responses the wording of the story that had the highest negative ranking was adjusted to reflect

stronger negativity and used as the negative media story for stage two of the experiment.

Stage two of the experiment was piloted with a sample of fourteen immediate past Alumni of the African Leadership Academy. This sample was chosen for the pilot as their similarity with the experimental sample provided a strong basis for comparison. The three objectives of the pilot were to (1) determine clarity and understanding of the instructions and tasks, (2) predict the range of opportunities that could be identified within the time frame and (3) make a decision on which technology platform to use based on the results.

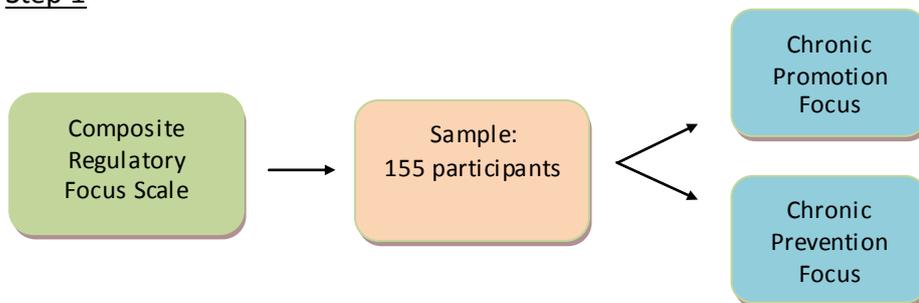
The participants were presented with either positive or negative media stories based on random assignment. Participants were given seven minutes to read the media story, followed by a comprehension exercise that served as a validity test for whether participants had read and understood fully. This was followed by a brief excerpt on a technology to apply to the South African market. Three technologies were used: the Smart phone, Forget Me Not Africa (FMNA) mobile technology and facial recognition technology. Participants were then asked to identify opportunities to apply the new technology to the South African market within a ten minute time-frame for each of the technologies. Results revealed a 100% rate of comprehension of the media stories, a maximum of six and a minimum of one opportunities were identified and the smart phone had the highest average number and highest average quality of opportunities identified. The decision was made to use the smart phone technology for the experiment based on the results.

#### 4.2.4. Procedure

As part of a mandatory entrepreneurship exercise for all students, the experiment was then conducted with participants. The total sample size was 155 students. In stage one, the Composite Regulatory Focus Scale questionnaire was distributed to participants to test for chronic regulatory focus. Three weeks later, stage two was conducted with the same sample in the school auditorium. The participants were presented with either positive or negative media stories based on random assignments. Participants were given seven minutes to read the media story followed by a comprehension exercise as a validity test that the story had been fully read and understood. Participants were then provided with a brief excerpt describing the smart phone and asked to identify opportunities to apply the smart phone technology to the South African market within a ten minute time-frame.

**Figure 4.1: Experimental Design**

##### Step 1

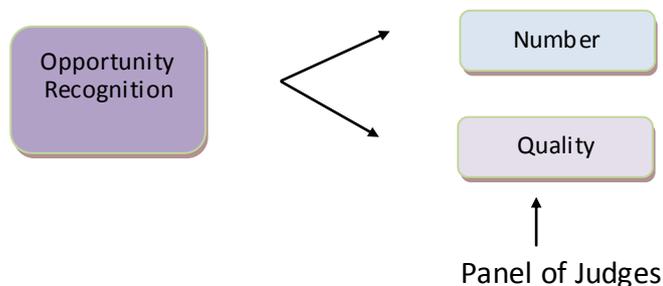


##### Step 2

Participants	Positive Media	Negative Media
Chronic Promotion Focus	A	B
Chronic Prevention Focus	C	D

The 2x2 factorial design in step two above is critical to the formulation of the hypotheses of this research study as it serves as a predictor of relationships to be observed. There are two independent variables: (1) chronic regulatory focus and (2) media stories. Promotion and prevention focus are the two levels of the independent variable, chronic regulatory focus; Positive and negative media stories are the two levels of the independent variable, situational regulatory focus.

### Step 3



Step three focuses on the outcome; the dependent variable is opportunity recognition measured by the number of opportunities identified and the quality of opportunities identified.

### **4.3. Method of Analysis**

All the manual data collected in the experiment was inputted into Microsoft Excel and prepared for analysis. Statistical analysis was conducted using the Statistical Package for the Social Sciences (SPSS) software to run three methods of analysis namely: descriptive statistics, reliability testing, and a multiple hierarchical regression analysis.

#### 4.3.1. Descriptive Statistics

Firstly, descriptive statistics were used to describe the sample that participated in the experiment. Descriptive statistics allows for a numerical description and comparison of variables (Saunders, Lewis & Thornhill, 2009).

#### 4.3.2. Reliability Testing

The **Cronbach's Alpha** reliability test was performed to confirm the validity of the Composite Regulatory Focus Scale used in stage one of the experiment. Reliability tests are especially important when the scale items will be used for subsequent predictive analyses, as in the case of this study. Cronbach's Alpha is a widely used tool for measuring scale reliability and a Cronbach's Alpha's alpha of 0.7 or higher is the typical standard (Zikumund, 2003). For newer scales, values can be lower than 0.7 but higher than 0.6 (Nunnally, 1978). The Regulatory Focus Composite Scale used for testing chronic regulatory focus in this study is a new scale thus, the Cronbach's Alpha was set for 0.65.

#### 4.3.3. Regression Analysis

A form of multiple regression analysis, Hierarchical Linear Model was run with each of the dependent variables: number of opportunities and quality of opportunities. Hierarchical Linear Modelling allows for a multilevel analysis in which each independent variable is entered in separate blocks one after the other to derive the additional contribution to variance in the dependent variable (change in  $R^2$ ) for each of the independent variables (chronic regulatory focus and media stories) after controlling for the impact of the control variables in the baseline model (first block). Hierarchical

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Linear Modelling allows for (1) improved estimation of effects within individual variables (2) formulation and testing of hypotheses occurring at each level and across levels (3) to assess the amount of variation at each level (Raudenbush & Bryk, 2002).

## CHAPTER 5: RESULTS

### 5.1. Introduction

The objective of this chapter is to present the findings of the study based on the stated hypotheses in chapter three. Statistical Analyses was performed to test these hypotheses. The results were done in three steps: (1) a Cronbach’s Alpha test was performed to test the reliability of the Regulatory Focus Composite Scale (2) descriptive statistics were used to describe the sample that participated in the experiment and, (3) Hierarchical Linear Modelling (HLM), a multiple regression analysis technique was performed to examine the relationship between the dependent variable, opportunity recognition: number and quality of opportunities and the predictor independent variables chronic regulatory focus and media stories, after controlling for the effect of the control variables, age, gender and A-level on the dependent variable.

### 5.2. Reliability Testing

As discussed in chapter four, the Composite Regulatory Focus Scale was used to measure the chronic regulatory focus of participants. This scale has ten variables using a seven-point Likert scale anchored with end points strongly disagree and strongly agree.

**Table 5.1: Reliability Statistics**

Cronbach’s Alpha	No of Items
.66	7

The Cronbach Alpha of the ten items in the Regulatory Focus Composite Scale was less than the desired level of 0.65. To improve reliability, three items were deleted; two

from the promotion sub scale and one from the prevention sub scale. This removal of scale items resulted in an improved Cronbach's Alpha of 0.66, above the desired level of 0.65.

### **5.3. Descriptive Statistics**

Descriptive statistics was performed on the data to capture the nature and characteristics of the sample. Prior to the analysis, the data was cleaned by removing participants who were not eligible to be used in the data. These participants were removed due to either not completing stage one and stage two of the experiment or not fully completing stage two of the experiment.

The cleaned data consisted of participants responses to the Composite Regulatory Focus Scale in stage one of the experiment and in stage two, identified opportunities by participants to apply the smart phone technology in the South African market. The data was collected in a paper-and-pencil format, inputted into Excel and then coded in the appropriate format to enable statistical analysis using SPSS.

#### **5.3.1. Sample Description –Participation rate**

155 students participated in the experiment, however only 131 students fully completed both stages of the experiment resulting in a usable response rate of 84.5%. In the first stage of the experiment measuring chronic regulatory focus, the distribution of participants in chronic regulatory focus, was almost equal, with 65 participants chronic prevention focus and 66 participants chronic promotion focus. In the second stage of the experiment, positive and negative media stories were randomly assigned to participants, with 65 receiving positive media stories and 66

receiving negative media stories. This distribution led to the balanced matrix in Table 5.2. below to support the 2x2 factorial design of the experiment.

**Table 5.2: Chronic Promotion and Chronic Prevention \* Media Crosstab**

Chronic Regulatory Focus	Media Stories		Total
	Positive Media Story	Negative Media Story	
Chronic Prevention	34	31	65
Chronic Promotion	31	35	66
<b>Total</b>	65	66	131

**Figure 5.1: Distribution of media stories according to chronic regulatory focus**

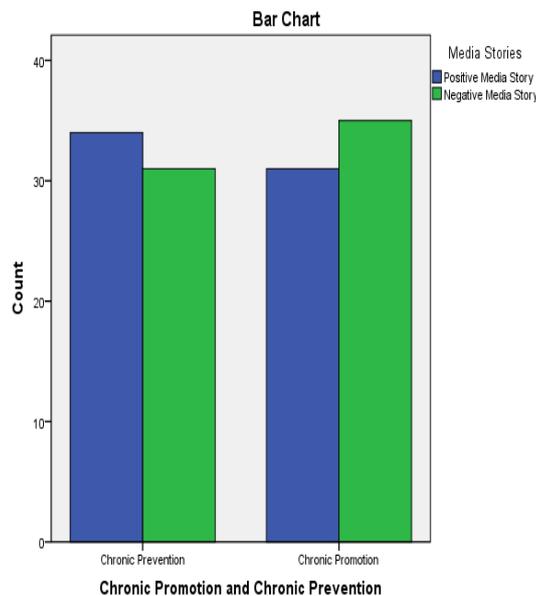


Figure 5.1 above visually depicts that almost an equal number of participants classified as promotion focus and prevention focus received positive and negative media stories respectively. For positive media stories, 34 were chronic prevention and 31 were chronic promotion. For negative media stories, 31 were chronic prevention and 35

were chronic promotion. This gave a sample size of above the desired level of 30 for each of the treatment conditions.

### 5.3.2. Dependent Variable- Opportunity Recognition

Participants were asked to identify opportunities to apply smart phone technology to the South African market. Responses were analyzed according to the number of opportunities identified and the quality of identified opportunities. Statistical analysis resulted in a mean of 5.58 for the number of opportunities identified. The mean for the quality of opportunities, which was ranked on a Likert scale anchored with end points one, strongly disagree and five, strongly agree was 2.41.

**Table 5.3: Mean Scores for Number and Quality of Opportunities**

	<b>N</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>	<b>Std. Deviation</b>
<b>Number of Opportunities</b>	<b>131</b>	<b>1</b>	<b>12</b>	<b>5.58</b>	<b>2.508</b>
<b>Quality of opportunities</b>	<b>131</b>	<b>1</b>	<b>5</b>	<b>2.41</b>	<b>1.066</b>

**Fig. 5.2. Frequency of opportunities identified**

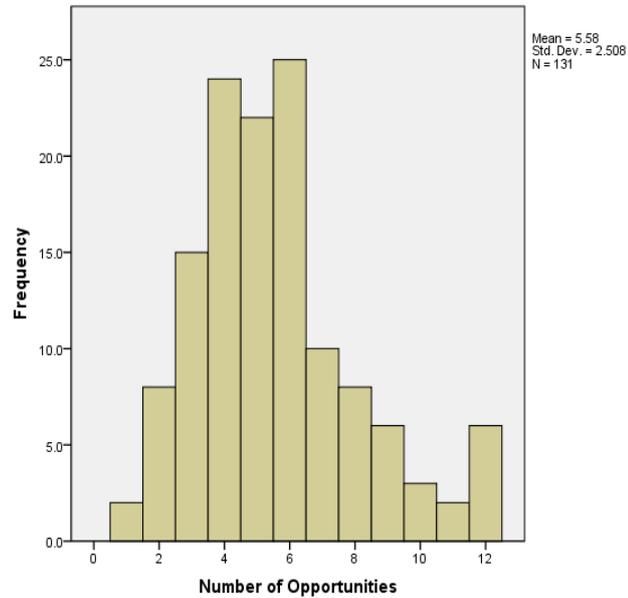


Fig. 5.2. shows the maximum number of opportunities participants identified was twelve and the minimum number of opportunities identified was one.

**Fig. 5.3: Frequency of quality of opportunity scores**

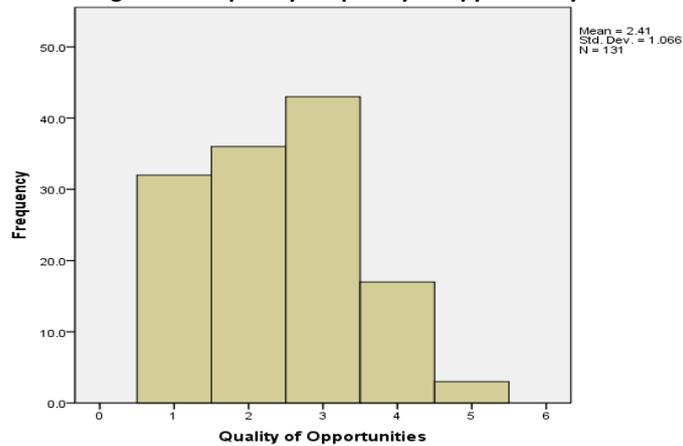
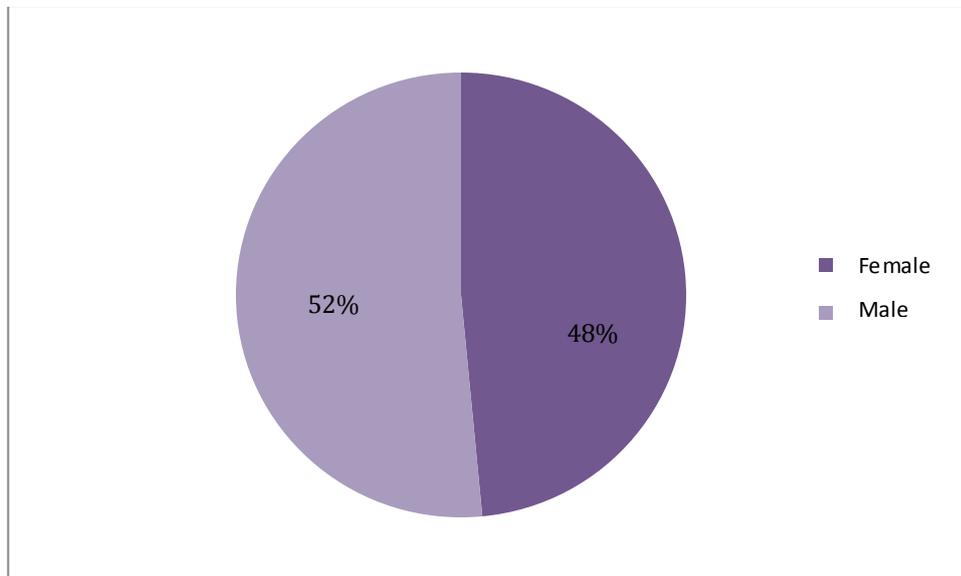


Fig. 5.3. shows the maximum number of opportunities participants identified was five and the minimum score was one.

### 5.3.3. Gender

With regards to the gender split across the sample, there was an almost equal split with 52% of the sample male and 48% female.

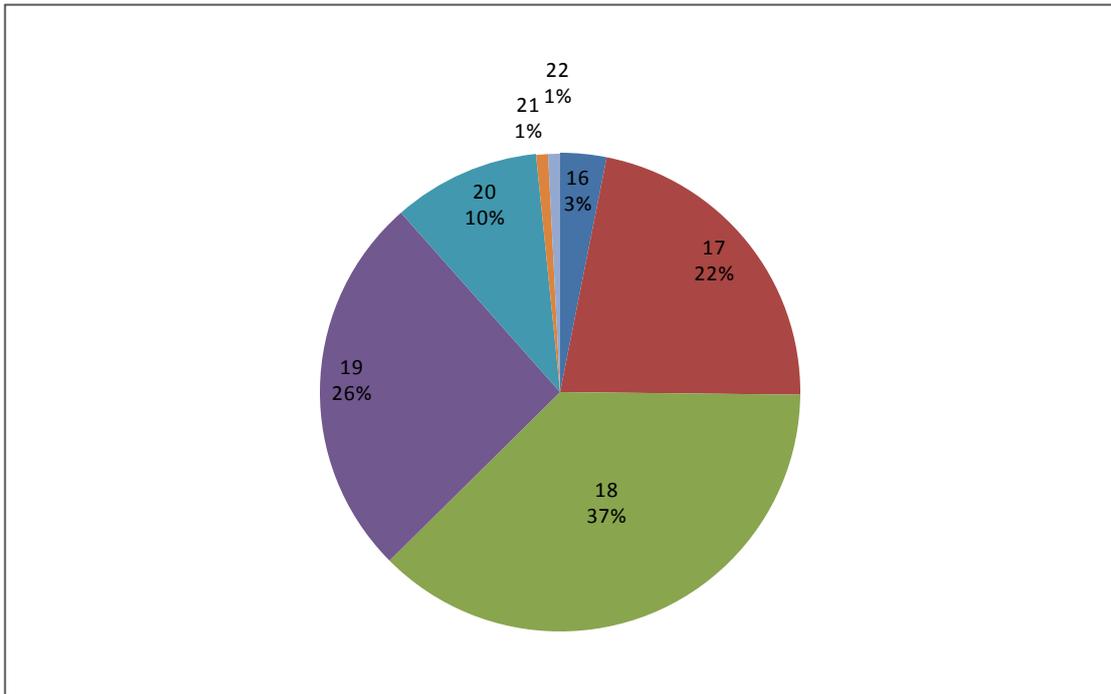
Fig 5.4: Gender Distribution of the sample



### 5.3.4. Age

Fig. 5.5. illustrates the age distribution of the sample. The youngest participant was 16 years with the oldest being 22. The majority of participants, 85% were between 17 and 19 years of age.

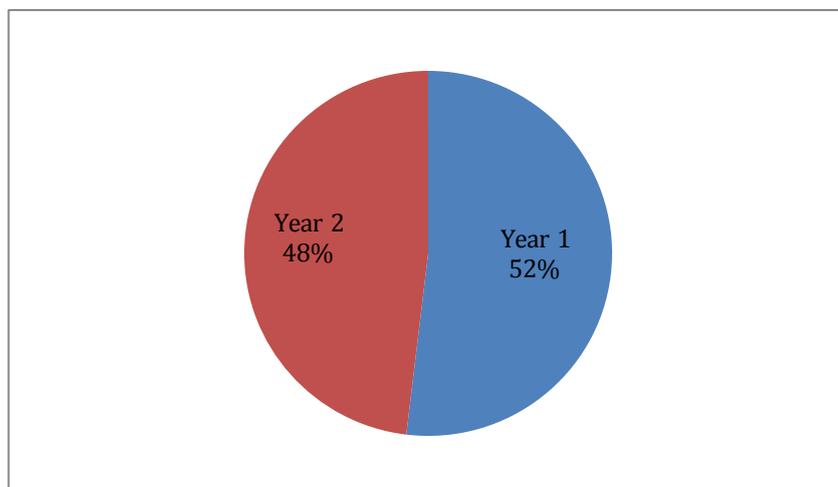
**Fig 5.5: Age distribution of the sample**



### 5.3.5. A-Level

The education level of participants was Cambridge A-Level, with 52% of the participants in year one and 48% in year two.

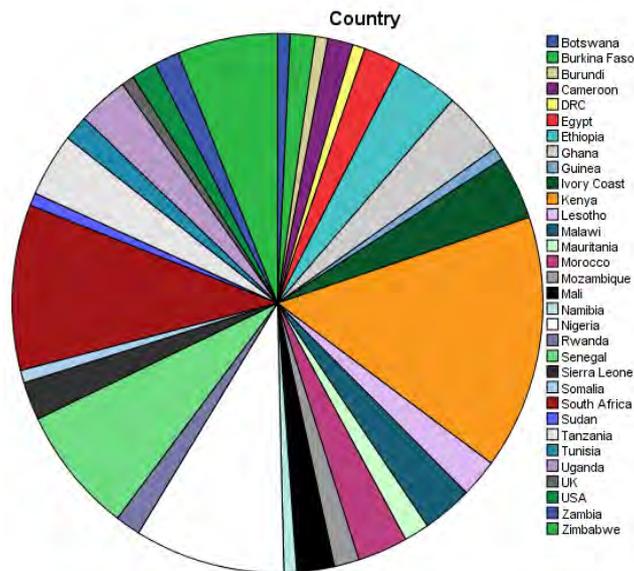
**Fig 5.6: Level of Education of the sample**



### 5.3.6. Country of origin

Fig 5.7. shows the countries of origin of the participants. The participants were from 32 different countries.

Fig 5.7: Country Distribution



### 5.4. Multiple Regression Analysis

A Hierarchical Linear Model (HLM) was run with each of the dependent variables: number of opportunities and quality of opportunities. HLM was used because it allowed (1) for the testing of main and interactive effects within and between levels, and (2) for an assessment of the additional contribution to variance in the dependent variable (change in  $R^2$ ) for each of the variables (Raudenbush & Bryk, 2002). The Hierarchical Linear Model for number and quality of opportunities respectively, consisted of four blocks labelled as models, added one after the other to derive the change in  $R^2$ . The variables included in each model are discussed briefly below.

Model one was the baseline model and consisted of the control variables: age, gender and A-Level. The centered chronic state variable was added for model two; this measure was created by calculating the mean for total promotion and total prevention scores and then subtracting the mean from each promotion and prevention score to center the score. Media stories (positive and negative) were added to model three. The interaction term, was added to model four; this measure was created by multiplying the chronic state with the media stories.

#### 5.4.1. Hierarchical Linear Model: Number of Opportunities

A hierarchical linear model was used to assess whether any of the independent variables remained predictive of the number of opportunities identified after accounting for control variables: age, education and gender. The results depicted in Table 5.4. and 5.5 below reveal that media has a significant effect on the number of opportunities identified but no other variables ( chronic state, interaction term) were predictive after accounting for the control variables.

**Table 5.4: HLM Number of Opportunities Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.268 <sup>a</sup>	.072	.047	2.171	.072	2.938	3	114	.036
2	.273 <sup>b</sup>	.075	.042	2.177	.003	.335	1	113	.564
3	.376 <sup>c</sup>	.141	.103	2.106	.067	8.722	1	112	.004
4	.376 <sup>d</sup>	.141	.095	2.116	.000	.001	1	111	.970

a. Predictors: (Constant), A-Level, Gender, Age

b. Predictors: (Constant), A-Level, Gender, Age, Cent\_ Chronic State

c. Predictors: (Constant), A-Level, Gender, Age, Cent\_Chronic State, Media Stories

d. Predictors: (Constant), A-Level, Gender, Age, Cent\_Chronic State, Media Stories, Chronic State \*Media

**Table 5.5: HLM ANOVA<sup>e</sup> for number of opportunities**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	41.529	3	13.843	2.938	.036 <sup>a</sup>
	Residual	537.225	114	4.712		
	Total	578.754	117			
2	Regression	43.120	4	10.780	2.274	.066 <sup>b</sup>
	Residual	535.635	113	4.740		
	Total	578.754	117			
3	Regression	81.820	5	16.364	3.688	.004 <sup>c</sup>
	Residual	496.934	112	4.437		
	Total	578.754	117			
4	Regression	81.827	6	13.638	3.046	.009 <sup>d</sup>
	Residual	496.928	111	4.477		
	Total	578.754	117			

From the tables, when the first block of control variables (A-Level, gender, age) is entered, the  $R^2$  change is 7.2%, and this is significant (sig = .036,  $p < 0.05$ ). The addition of the second block (chronic state) results in a  $R^2$  change of 0.003, which was insignificant (sig = .066,  $p < 0.05$ ). The  $R^2$  change with the addition of the third block (media stories) is 0.067 and this is significant (sig = .004,  $p < 0.05$ ). The addition of the fourth block (interaction term, media\* chronic state) resulted in no  $R^2$  change and was not significant (sig = .009,  $p < 0.05$ ). After entry of the interaction term in the fourth block, the total variance explained by the model as a whole was 14.1%.

**Table 5.6: Summary of Coefficients for Number of Opportunities**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.106	3.627		.305	.761
Gender	-.995	.404	-.224	-2.465	.015
Age	.303	.213	.144	1.424	.157
A-Level	-.199	.453	-.045	-.439	.662
Cent_Chronic State	.025	.108	.034	.232	.817

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Media Stories	-1.163	.396	-.262	-2.933	.004
Chronic State * Media	-.005	.136	-.006	-.038	.970

Table 5.6. provides a summary of coefficients, with all the variables entered into the regression equation. The beta values represent the unique contribution of each of the variables to the final equation. The Sig column reveals that there are two variables, gender ( $\beta = -.224$ , sig = .015) and media stories ( $\beta = -.262$ , sig = .004) that make a unique statistically significant contribution ( $p < .05$ ). Age, A-Level, chronic State and the interaction term all do not make a unique contribution.

#### 5.4.2. Hierarchical Linear Model: Quality of Opportunities

A hierarchical linear model was used to assess whether any of the independent variables remained predictive of the quality of opportunities identified after accounting for control variables: A-level, age and gender. The results depicted in Table 5.7. and 5.8. below reveal that none of the independent variables had a significant effect on the quality of opportunities identified.

**Table 5.7: HLM Quality of Opportunities Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.145 <sup>a</sup>	.021	-.005	1.026	.021	.815	3	114	.488
2	.145 <sup>b</sup>	.021	-.014	1.030	.000	.001	1	113	.978
3	.145 <sup>c</sup>	.021	-.023	1.035	.000	.000	1	112	.992
4	.146 <sup>d</sup>	.021	-.032	1.039	.000	.021	1	111	.884

a. Predictors: (Constant), A-Level, Gender, Age

b. Predictors: (Constant), A-Level, Gender, Age, Cent\_ Chronic State

c. Predictors: (Constant), A-Level, Gender, Age, Cent\_Chronic State, Media Stories

d. Predictors: (Constant), A-Level, Gender, Age, Cent\_Chronic State, Media Stories, Chronic State \*Media

**Table 5.8: ANOVA<sup>e</sup> for quality of opportunities**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.572	3	.857	.815	.488 <sup>a</sup>
	Residual	119.902	114	1.052		
	Total	122.475	117			
2	Regression	2.573	4	.643	.606	.659 <sup>b</sup>
	Residual	119.902	113	1.061		
	Total	122.475	117			
3	Regression	2.573	5	.515	.481	.790 <sup>c</sup>
	Residual	119.901	112	1.071		
	Total	122.475	117			
4	Regression	2.596	6	.433	.401	.877 <sup>d</sup>
	Residual	119.878	111	1.080		
	Total	122.475	117			

From the tables, when the first block of control variables (A-Level, Gender, Age) is entered, the  $R^2$  change is 2.1%, and this is significant (sig = .488,  $p < 0.05$ ). The addition of the second block (chronic state) results in a  $R^2$  change of 0.003, which was insignificant (sig = .659,  $p < 0.05$ ). There is no  $R^2$  change with the addition of the third block (media stories) and this is not significant (sig = .790,  $p < 0.05$ ). The addition of the fourth block (interaction term, media\* chronic state) resulted in a  $R^2$  change of 0.02 and was not significant (sig = 0.877,  $p < 0.05$ ). After entry of the interaction term in the fourth block, the total variance explained by the model as a whole was 4.5 %.

**Table 5.9: HLM Summary of Coefficients<sup>a</sup> for Quality of Opportunities**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	3.183	1.760		1.809	.073
Gender	.081	.191	.040	.423	.673
Age	-.067	.104	-.069	-.649	.517
A-Level	.270	.222	.132	1.217	.226
Cent_Chronic State	-.050	.033	-.203	-1.506	.135

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Media Stories	-.019	.193	-.009	-.099	.922
Chronic	.071	.046	.203	1.540	.126
State*Media					

a. Dependent Variable: Quality of Opportunities

Table 5.9. provides a summary of coefficients, with all the variables entered into the regression equation. The beta values represent the unique contribution of each of the variables to the final equation. The Sig column reveals that none of the variables made a unique statistically significant contribution.

### 5.4.3 Chronic-Situational Interaction Regression Analysis

The overall model for both number and quality of opportunities revealed that the interaction term was not significantly related to number and quality of opportunities identified. The interaction term for the overall model was calculated by a multiplication of the independent variables, combined centered chronic state and the combined media stories. The null result found for the overall model could be due to effects found in only one level of the independent variable or effects acting in the opposite direction from predicted (Wheeler & Berger, 2007).

Thus, to establish whether significant differences exist within the levels of the independent variable and better understand the interaction, the chronic state was split into promotion focus and prevention focus and the media stories were split into positive and negative media stories. Separate regression models were run for (1) promotion chronic state and positive/negative media and (2) prevention chronic state and positive/negative media for dependent variables, number and quality of opportunities respectively.

This was consistent with other studies done to explore interaction between chronic and situational regulatory focus; regression models were run for the main effects, subsequently separate regression models were run for promotion/gain frame and prevention/loss frame conditions (Haws et al., 2011). To account for the impact of the control variables, the control variables of age, gender and A-level were entered in the first block.

**Table 5.10: Chronic Promotion Focus/Positive- Negative Media Interaction Model Summary<sup>c</sup>  
Number of Opportunities**

Media Stories	Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
						R Square Change	F Change	df1	df2	Sig. F Change
Positive Media Story	1	.273 <sup>a</sup>	.075	.029	2.468	.075	1.617	3	60	.195
	2	.295 <sup>b</sup>	.087	.025	2.472	.013	.809	1	59	.372
Negative Media Story	1	.308 <sup>a</sup>	.095	.040	1.619	.095	1.743	3	50	.170
	2	.339 <sup>b</sup>	.115	.043	1.617	.020	1.117	1	49	.296

a. Predictors: (Constant), A-Level, Gender, Age

b. Predictors: (Constant), A-Level, Gender, Age, Avepromotion

c. Dependent Variable: Number of Opportunities

**Table 5.11: Chronic Promotion Focus/Positive-Negative Media Interaction  
ANOVA<sup>c</sup> Number of Opportunities**

Media Stories	Model		Sum of Squares	df	Mean Square	F	Sig.
Positive Media Story	1	Regression	29.539	3	9.846	1.617	.195 <sup>a</sup>
		Residual	365.461	60	6.091		
		Total	395.000	63			
	2	Regression	34.482	4	8.620	1.411	.242 <sup>b</sup>
		Residual	360.518	59	6.110		
		Total	395.000	63			
Negative Media Story	1	Regression	13.715	3	4.572	1.743	.170 <sup>a</sup>
		Residual	381.285	60	6.353		

Media Story	Residual	131.118	50	2.622		
	Total	144.833	53			
2	Regression	16.638	4	4.160	1.590	.192 <sup>b</sup>
	Residual	128.195	49	2.616		
	Total	144.833	53			

a. Predictors: (Constant), A-Level, Gender, Age

b. Predictors: (Constant), A-Level, Gender, Age, Averbromotion

c. Dependent Variable: Number of Opportunities

From Tables 5.10 and 5.11 for positive media stories, when the first block of control variables (A-Level, gender, age) is entered (Model 1), the  $R^2$  change is 7.5%, and this is not significant ( $sig = .195, p < 0.05$ ). The addition of the second block (positive media) results in a  $R^2$  change of 0.013, which was insignificant ( $sig = 0.242, p < 0.05$ ). For negative media stories, when the first block of control variables (A-Level, gender, age) is entered (Model 1), the  $R^2$  change is 9.5%, and this is not significant ( $sig = .170, p < 0.05$ ). The addition of the second block (positive media) results in a  $R^2$  change of 0.02, which was insignificant ( $sig = .192, p < 0.05$ ). This means that there was no significant interaction between chronic promotion focus and positive and negative media stories respectively for number of opportunities identified.

**Table 5.12: Chronic Prevention Focus/Positive-Negative Media Interaction Model Summary  
Number of Opportunities**

Media Stories	Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
						R Square Change	F Change	df1	df2	Sig. F Change
Positive Media Story	1	.273 <sup>a</sup>	.075	.029	2.468	.075	1.617	3	60	.195
	2	.279 <sup>b</sup>	.078	.015	2.485	.003	.196	1	59	.660
Negative Media Story	1	.308 <sup>a</sup>	.095	.040	1.619	.095	1.743	3	50	.170
	2	.421 <sup>b</sup>	.177	.110	1.560	.082	4.898	1	49	.032

**Table 5.12: Chronic Prevention Focus/Positive-Negative Media Interaction Model Summary  
Number of Opportunities**

Media Stories	Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
						R Square Change	F Change	df1	df2	Sig. F Change
Positive	1	.273 <sup>a</sup>	.075	.029	2.468	.075	1.617	3	60	.195
Media Story	2	.279 <sup>b</sup>	.078	.015	2.485	.003	.196	1	59	.660
Negative	1	.308 <sup>a</sup>	.095	.040	1.619	.095	1.743	3	50	.170
Media Story	2	.421 <sup>b</sup>	.177	.110	1.560	.082	4.898	1	49	.032

a. Predictors: (Constant), A-Level, Gender, Age

b. Predictors: (Constant), A-Level, Gender, Age, Aveprevention

c. Dependent Variable: Number of Opportunities

**Table 5.13: Chronic Prevention Focus/Positive-Negative Media Interaction ANOVA<sup>c</sup>  
Number of Opportunities**

Media Stories	Model		Sum of Squares	df	Mean Square	F	Sig.
Positive Media Story	1	Regression	29.539	3	9.846	1.617	.195 <sup>a</sup>
		Residual	365.461	60	6.091		
		Total	395.000	63			
	2	Regression	30.749	4	7.687	1.245	.302 <sup>b</sup>
		Residual	364.251	59	6.174		
		Total	395.000	63			
Negative Media Story	1	Regression	13.715	3	4.572	1.743	.170 <sup>a</sup>
		Residual	131.118	50	2.622		
		Total	144.833	53			
	2	Regression	25.631	4	6.408	2.634	.045 <sup>b</sup>
		Residual	119.202	49	2.433		
		Total	144.833	53			

a. Predictors: (Constant), A-Level, Gender, Age

b. Predictors: (Constant), A-Level, Gender, Age, Aveprevention

c. Dependent Variable: Number of Opportunities

From Tables 5.12 and 5.13 for positive media stories, when the first block of control variables (A-Level, gender, age) is entered (Model 1), the R<sup>2</sup> change is 7.5%, and this is

not significant (sig = .195,  $p < 0.05$ ). The addition of the second block (positive media) results in a  $R^2$  change of 0.003, which was insignificant (sig = .302,  $p < 0.05$ ). For negative media stories, when the first block of control variables (A-Level, gender, age) is entered (Model 1), the  $R^2$  change is 9.5%, and this is not significant (sig = .170,  $p < 0.05$ ). The addition of the second block (positive media) results in a  $R^2$  change of 0.082, which was significant (sig = .045,  $p < 0.05$ ). This means that there was no significant interaction between chronic prevention focus and positive media stories but a significant interaction for chronic prevention focus and negative media stories for number of opportunities identified.

**Table 5.14: Chronic Promotion Focus/Positive- Negative Media Interaction Model Summary<sup>c</sup>**  
**Quality of Opportunities**

Media Stories	Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
						R Square Change	F Change	df1	df2	Sig. F Change
Positive	1	.218 <sup>a</sup>	.047	-.017	.997	.047	.733	4	59	.573
Media Story	2	.238 <sup>b</sup>	.057	-.025	1.001	.009	.577	1	58	.451
Negative	1	.286 <sup>c</sup>	.082	.007	1.068	.082	1.090	4	49	.372
Media Story	2	.324 <sup>d</sup>	.105	.012	1.065	.023	1.235	1	48	.272

a. Predictors: (Constant), A-Level, Gender, Age

b. Predictors: (Constant), A-Level, Gender, Age, Avepromotion

c. Predictors: (Constant), Age, Gender, A-Level

d. Predictors: (Constant), Age, Gender, A-Level, Avepromotion

e. Dependent Variable: Quality of Opportunities

**Table 5.15: Chronic Promotion Focus/Positive-Negative Media Interaction ANOVA<sup>c</sup>**

			Quality of Opportunities				
Media Stories	Model		Sum of Squares	df	Mean Square	F	Sig.
Positive Media Story	1	Regression	2.917	4	.729	.733	.573 <sup>a</sup>
		Residual	58.692	59	.995		
		Total	61.609	63			
	2	Regression	3.495	5	.699	.698	.627 <sup>b</sup>
		Residual	58.114	58	1.002		
		Total	61.609	63			
Negative Media Story	1	Regression	4.972	4	1.243	1.090	.372 <sup>c</sup>
		Residual	55.861	49	1.140		
		Total	60.833	53			
	2	Regression	6.373	5	1.275	1.123	.361 <sup>d</sup>
		Residual	54.460	48	1.135		
		Total	60.833	53			

a. Predictors: (Constant), A-Level, Gender, Age

b. Predictors: (Constant), A-Level, Gender, Age, Avepromotion

c. Predictors: (Constant), Age, Gender, A-Level

d. Predictors: (Constant), Age, Gender, A-Level, Avepromotion

e. Dependent Variable: Quality of Opportunities

From Tables 5.14 and 5.15 for positive media stories, when the first block of control variables (A-Level, gender, age) is entered (Model 1), the  $R^2$  change is 4.7%, and this is not significant ( $\text{sig} = .573$ ,  $p < 0.05$ ). The addition of the second block (positive media) results in a  $R^2$  change of 0.009, which was insignificant ( $\text{sig} = .627$ ,  $p < 0.05$ ). For negative media stories, when the first block of control variables (A-Level, gender, age) is entered (Model 1), the  $R^2$  change is 8.2%, and this is not significant ( $\text{sig} = .372$ ,  $p < 0.05$ ). The addition of the second block (negative media) results in a  $R^2$  change of 0.023, which was not significant ( $\text{sig} = .361$ ,  $p < 0.05$ ). This means that there was no significant interaction between chronic promotion focus and positive or negative media stories for quality of opportunities identified.

**Table 5.16: Chronic Prevention Focus/Positive- Negative Media Interaction Model Summary<sup>c</sup>**

		Quality of Opportunities								
Media Stories	Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
						R Square Change	F Change	df1	df2	Sig. F Change
Positive Media Story	1	.225 <sup>a</sup>	.051	-.014	.996	.051	.785	4	59	.540
Negative Media Story	1	.314 <sup>b</sup>	.099	.025	1.058	.099	1.340	4	49	.268

a. Predictors: (Constant), Age, Gender, A-Level, Aveprevention

b. Predictors: (Constant), Gender, Age, A-Level, Aveprevention

c. Dependent Variable: Quality of Opportunities

**Table 5.17: Chronic Prevention Focus/Positive-Negative Media Interaction ANOVA<sup>c</sup>**

		Quality of Opportunities					
Media Stories	Model		Sum of Squares	df	Mean Square	F	Sig.
Positive Media Story	1	Regression	3.112	4	.778	.785	.540 <sup>a</sup>
		Residual	58.497	59	.991		
		Total	61.609	63			
Negative Media Story	1	Regression	6.000	4	1.500	1.340	.268 <sup>b</sup>
		Residual	54.833	49	1.119		
		Total	60.833	53			

a. Predictors: (Constant), Age, Gender, A-Level, Aveprevention

b. Predictors: (Constant), Gender, Age, A-Level, Aveprevention

c. Dependent Variable: Quality of Opportunities

From Tables 5.16 and 5.17 for positive media stories, the  $R^2$  change is 5.1%, and this is not significant (sig = .540,  $p < 0.05$ ). For negative media stories, the  $R^2$  change is 9.9%, and this is not significant (sig = .268,  $p < 0.05$ ). This means that there was no significant interaction between chronic prevention focus and positive or negative media stories for quality of opportunities identified.

### 5.5.2. Hypothesis testing

Based on the results of the statistical analyses conducted, the hypotheses have been rejected or have failed to be rejected.

#### **Chronic regulatory focus and opportunity recognition**

**Hypothesis 1a:** *An individual's chronic regulatory focus will be significantly related to the number of opportunities identified.*

#### **Hypothesis 1a: Statistical Result**

**H<sub>0</sub>:** *An individual's chronic regulatory focus will not be significantly related to the number of opportunities identified.*

**H<sub>1</sub>:** *An individual's chronic regulatory focus will be significantly related to the number of opportunities identified.*

Hierarchical linear modelling (Model 2) was used to test Hypothesis 1a. Results reveal the chronic regulatory focus was insignificant (Sig = .066,  $p < 0.05$ ). This indicates that chronic regulatory focus is not significantly related to the number of opportunities identified. Thus the result fails to reject the null hypothesis (H<sub>0</sub>).

**Hypothesis 1b:** *An individual's chronic regulatory focus will be significantly related to the quality of opportunities identified.*

#### **Hypothesis 1b: Statistical Result**

**H<sub>0</sub>:** *An individual's chronic regulatory focus will not be significantly related to the quality of opportunities identified.*

**H<sub>1</sub>:** *An individual's chronic regulatory focus will be significantly related to the quality of opportunities identified.*

Hierarchical linear modelling (Model 2) was used to test Hypothesis 1a. Results reveal the chronic regulatory focus was insignificant (Sig = .659,  $p < 0.05$ ). This indicates that chronic regulatory focus is not significantly related to the quality of opportunities identified. Thus the result fails to reject the null hypothesis ( $H_0$ ).

### **Media and Opportunity Recognition**

**Hypothesis 2a:** *Media stories will be significantly related to the number of opportunities identified.*

#### **Hypothesis 2a: Statistical Result**

**H<sub>0</sub>:** *Media stories will not be significantly related to the number of opportunities identified.*

**H<sub>1</sub>:** *Media stories will be significantly related to the number of opportunities identified.*

Hierarchical linear modelling (Model 3) was used to test Hypothesis 2a. Results reveal the effect of media stories was significant (Sig = .004,  $p < 0.05$ ). This indicates that media stories are significantly related to the number of opportunities identified. Thus the result rejects the null hypothesis ( $H_0$ ) and accepts  $H_1$ .

**Hypothesis 2b:** *Media stories will be significantly related to the quality of opportunities identified.*

#### **Hypothesis 2b: Statistical Result**

**H<sub>0</sub>:** *Media stories will not be significantly related to the quality of opportunities identified.*

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**H<sub>1</sub>:** *Media stories will be significantly related to the quality of opportunities identified.*

Hierarchical linear modelling (Model 3) was used to test Hypothesis 2b. Results reveal the effect of media stories was not significant (Sig = .790,  $p < 0.05$ ). This indicates that media stories are not significantly related to the number of opportunities identified. Thus the result fails to reject the null hypothesis ( $H_0$ ).

**Hypothesis 3a:** *The interaction between chronic regulatory focus and media stories will be significantly related to the number of opportunities identified.*

### **Hypothesis 3a: Statistical Result**

**H<sub>0</sub>:** *The interaction between chronic regulatory focus and media stories will be significantly related to the number of opportunities identified.*

**H<sub>1</sub>:** *The interaction between chronic regulatory focus and media stories will be significantly related to the number of opportunities identified.*

Hierarchical linear modelling (Model 4) was used to test Hypothesis 3a. Results reveal the interaction term was not significant (Sig = .009,  $p < 0.05$ ). This indicates that interaction between chronic regulatory focus and media stories is not significantly related to the number of opportunities identified. Thus the result fails to reject the null hypothesis ( $H_0$ ).

**Hypothesis 3b:** *The interaction between chronic regulatory focus and media stories will be significantly related to the quality of opportunities identified.*

### **Hypothesis 3b: Statistical Result**

**H<sub>0</sub>:** *The interaction between chronic regulatory focus and media stories will be significantly related to the quality of opportunities identified.*

**H<sub>1</sub>:** *The interaction between chronic regulatory focus and media stories will be significantly related to the quality of opportunities identified.*

Hierarchical linear modelling (Model 4) was used to test Hypothesis 3b. Results reveal the interaction term was not significant (Sig = .877,  $p < 0.05$ ). This indicates that interaction between chronic regulatory focus and media stories is not significantly related to the quality of opportunities identified. Thus the result fails to reject the null hypothesis (H<sub>0</sub>).

**Hypothesis 4a:** *Chronic regulatory focus will interact with media stories such that an individual in a promotion focused state exposed to a positive media story will identify a higher number of opportunities.*

### **Hypothesis 4a: Statistical Result**

**H<sub>0</sub>:** *An individual in a promotion focused state exposed to a positive media story will not identify a higher number of opportunities.*

**H<sub>1</sub>:** *Chronic regulatory focus will interact with media stories such that an individual in a promotion focused state exposed to a positive media story will identify a higher number of opportunities.*

A hierarchical regression analysis was run to test Hypothesis 4a. Results reveal the interaction term was not significant (Sig = .242,  $p < 0.05$ ). This indicates that interaction between chronic promotion focus and positive media stories is not significantly related to the number of opportunities identified. Thus the result fails to reject the null hypothesis ( $H_0$ ).

**Hypothesis 4b:** *Chronic regulatory focus will interact with media stories such that an individual in a promotion focused state exposed to a positive media story will identify opportunities of a lower quality.*

**Hypothesis 4b: Statistical Result**

**$H_0$ :** *An individual in a promotion focused state exposed to a positive media story will not identify opportunities of a lower quality.*

**$H_1$ :** *Chronic regulatory focus will interact with media stories such that an individual in a promotion focused state exposed to a positive media story will identify opportunities of a lower quality.*

A hierarchical regression analysis was run to test Hypothesis 4b. Results reveal the interaction term was not significant (Sig = .627,  $p < 0.05$ ). This indicates that interaction between chronic promotion focus and positive media stories is not significantly related to the quality of opportunities identified. Thus the result fails to reject the null hypothesis ( $H_0$ ).

**Hypothesis 4c:** *Chronic regulatory focus will interact with media stories such that an individual in a prevention focused state exposed to a negative media story will identify a lower number of opportunities.*

**Hypothesis 4c: Statistical Result**

**H<sub>0</sub>:** *An individual in a prevention focused state exposed to a negative media story will not identify a lower number of opportunities.*

**H<sub>1</sub>:** *Chronic regulatory focus will interact with media stories such that an individual in a prevention focused state exposed to a negative media story will identify a lower number of opportunities*

A hierarchical regression analysis was run to test Hypothesis 4c. Results reveal the interaction term was significant (Sig = .045,  $p < 0.05$ ). This indicates that interaction between chronic prevention focus and negative media stories is significantly related to the number of opportunities identified. Thus the result rejects the null hypothesis (H<sub>0</sub>) and accepts H<sub>1</sub>.

**Hypothesis 4d:** *Chronic regulatory focus will interact with media stories such that an individual in a prevention focused state exposed to a negative media story will identify opportunities of a better quality.*

**Hypothesis 4d: Statistical Result**

**H<sub>0</sub>:** *An individual in a prevention focused state exposed to a negative media story will not identify opportunities of a better quality.*

**H<sub>1</sub>:** *Chronic regulatory focus will interact with media stories such that an individual in a prevention focused state exposed to a negative media story will identify opportunities of a better quality.*

A hierarchical regression analysis was run to test Hypothesis 4d. Results reveal the interaction term was not significant (Sig = .268,  $p < 0.05$ ). This indicates that interaction between chronic prevention focus and negative media stories is not significantly related to the quality of opportunities identified. Thus the result fails to reject the null hypothesis ( $H_0$ ).

## CHAPTER 6: DISCUSSION OF RESULTS

### 6.1. Introduction

The purpose of this chapter is to provide an interpretation of the results presented in chapter five and address the research objectives of this study. This interpretation is supported by the use of the conceptual framework discussed in chapter one and three, the proposed hypotheses in chapter three and the subsequent statistical findings in chapter five. In this chapter, the efficacy of regulatory focus theory in predicting the outcome of opportunity recognition is assessed by reviewing the literature and the results of the hypotheses testing in the context of this study, and then identifying any possible research design limitations. The chapter then concludes with a summary and interpretation of findings.

## 6.2 Summary of Hypotheses Testing

Table 6.1: Summary of Hypotheses Tested

Theory Tested	Hypotheses (H <sub>1</sub> )	Result
<b>Chronic Regulatory Focus and Opportunity Recognition</b>		
	An individual's chronic regulatory focus will be significantly related to the number of opportunities identified.	Reject H <sub>1</sub>
	An individual's chronic regulatory focus will be significantly related to the quality of opportunities identified.	Reject H <sub>1</sub>
<b>Media and Opportunity Recognition</b>		
	Media stories will be significantly related to the number of opportunities identified.	Accept H <sub>1</sub>
	Media stories will be significantly related to the quality of opportunities identified.	Reject H <sub>1</sub>
<b>Chronic Regulatory Focus and Media Interaction</b>		
	The interaction of chronic regulatory focus and media will be significantly related to the number of opportunities identified.	Reject H <sub>1</sub>
	The interaction of chronic regulatory focus and media will be significantly related to the quality of opportunities identified.	Reject H <sub>1</sub>
<b>Chronic-Situational Interaction: Promotion Focus and Positive Media Stories</b>		
	Chronic regulatory focus will interact with media stories such that an individual in a promotion focused state exposed to a positive media story will identify a higher number of opportunities.	Reject H <sub>1</sub>
	Chronic regulatory focus will interact with media stories such that an individual in a promotion focused state exposed to a positive media story will identify opportunities of a lower quality.	Reject H <sub>1</sub>
<b>Chronic Situational Interaction: Prevention Focus and Negative Media Stories</b>		
	Chronic regulatory focus will interact with media stories such that an individual in a prevention focus state exposed to a negative media story will identify a lower number of opportunities.	Accept H <sub>1</sub>
	Chronic regulatory focus will interact with media stories such that an individual in a prevention focus state exposed to a negative media story will identify opportunities of a better quality.	Reject H <sub>1</sub>

## 6.3. Chronic Regulatory Focus and Opportunity Recognition

### 6.3.1. Results

Results revealed that the effect of chronic regulatory focus on opportunity recognition was not significant (Sig = .066,  $p < 0.05$ ) for both number of opportunities identified and for quality of opportunities identified (Sig = .659,  $p < 0.05$ ).

### 6.3.2. Link to Literature

Regulatory focus theory hypothesizes that an individual's chronic regulatory orientation predicts or influences salient outcomes in gain/non-gain and loss/non-loss situations. Empirical studies in testing this theory have found significant influences between chronic regulatory focus and task performance, product preferences, risk taking and financial decisions, or responses to advertising messages (Aaker & Lee, 2004; Franklin, 2007; Higgins, 1997, 1998; Hamstra et al., 2010). As discussed in the literature reviewed, opportunity recognition is the preliminary stage of the entrepreneurial process, thus this study sought to extend this theoretical rationale to opportunity recognition decisions. However, a significant relationship was not found between chronic regulatory focus and opportunity recognition and possible explanations are discussed below.

Current entrepreneurship research emphasizes examining the combined effect of individual difference, process and context (Brockner et al., 2004). The findings of this study provide supporting evidence to this approach as the lack of significant individual motivational differences suggests that other antecedent factors may play an equally important role in opportunity recognition. These antecedent factors include cognitive processing through concepts of entrepreneurial alertness and pattern recognition, social networks and prior

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knowledge and experience (Ardichvili et al., 2003; Baron, 2004, 2006; Gaglio & Katz, 2001; Kirzner, 1992).

Another possible explanation for the lack of effect of individual motivational differences is the interpretation of the opportunity recognition task in the experiment by participants. The tenets of regulatory focus states – chronic promotion focus and chronic prevention focus – are based on approach avoidance and the motivation to approach desired end states. Participants were asked to identify opportunities to apply a technology to the South African market; perhaps participants did not consider this task as a personal goal orientation or desired end state and thus, responses did not reflect their existing chronic self-regulatory state. It would be interesting in further studies to explore tasks such as identifying opportunities to start one's own venture for example and observing whether there will be any variance in responses.

### 6.3.3. Sample and Instrument Evaluation

There are four considerations of the sample and instrument that provide possible supporting explanations of the results.

First, the recently developed Composite Regulatory Focus Scale was used to capture the chronic regulatory state of participants in stage one of the experiment (Haws et al., 2010). Other measures of chronic regulatory focus exist and have been used in empirical research, of which the most widely used are the Lockwood Scale and the Regulatory Focus Questionnaire (RFQ). The Lockwood Scale is widely used in studies focused on education in areas such as academic performance and achievement. The RFQ is the most widely used measure but lacks items measuring emotional reactions and present or future-oriented items (Haws et al., 2010).

Consequently, the Composite Regulatory Focus Scale was designed to address the limitations of the RFQ measure by including the missing emotional content and items reflecting the past, present and future (Haws et al., 2010). This was an important consideration in choosing the composite regulatory focus scale for this experiment; the objective was to elicit an emotional association with media stories and subsequently engage in the future-oriented task of opportunity recognition. The results indicate that this scale may have required further adaptation for the niche context of media and opportunity recognition. Replications of this experiment could consider use of either an adapted version of the composite regulatory focus scale or other widely used measures of regulatory focus.

Secondly, self-report bias could also have played a role in the chronic regulatory focus measure. Participants in research tend to engage in socially desirable behaviour in their response to questions. Thus, responses that could potentially be perceived as inappropriate by researchers are under-reported and responses that could be perceived as appropriate are over-reported (Spector, 1994). Whereas, the potential of self-report bias was accounted for in this study through the anonymity of responses, this does not preclude the potential of self-report bias occurring with some of the participants; given that the chronic regulatory focus state was calculated using the total scores, any self-report bias would ultimately affect the classification of the chronic regulatory orientation: promotion and prevention focus.

Thirdly, experiments are run under laboratory settings with the aim of simulating the real world. Due to this, it is a possibility that participants were not acting in their natural state, and thus in a field setting, a stronger relationship will emerge with chronic regulatory focus and opportunity recognition. The external validity of experiments is always a risk in a laboratory setting. However, in the context of this study, an experimental design was the most appropriate

method to test and develop this new theory, as experiments allow for rigorous controlled settings and are relatively cheaper compared to field experiments (McMullen, 2003).

A fourth consideration is the motivation of participants. The widely used norm to attract student voluntary participation in experiments is to offer an incentive of course credit or cash payments for participation – and this inadvertently influences outcomes. For this study, no incentive was provided, but the results point to the question of whether the lack of incentives also influences response bias. It is possible that the lack of incentives contributed to the inconsistent findings of this study when compared with similar empirical studies as distinguishing motivational influences is more challenging without shared incentives thus resulting in variance in motivation for participation.

## **6.4. Media and opportunity recognition**

### **6.4.1. Results**

Results revealed that the effect of media stories was significant (Sig = .004,  $p < 0.05$ ) for number of opportunities identified but not significant for quality of opportunities ((Sig = .790,  $p < 0.05$ ))

### **6.4.2. Link to Literature**

The above results provide support for two important arguments to explain the significant effect found for number of opportunities and the lack of significance found for quality of opportunities respectively.

First, the media serves as a prime for situational regulatory focus. Situational regulatory focus has been primed in studies by the use of advertising messages, reading and problem-solving tasks (Aaker & Lee, 2004; Crowe & Higgins, 1997; Forster et al., 2001). For the purposes of this study, media stories were utilized to show the influence of the media on opportunity

recognition. As noted in the literature, because issues on the public agenda such as the macro environment are beyond an individual's immediate personal experience, the media thus becomes a primary source of knowledge and information on these issues, and through this medium influences public perception.

Secondly, opportunity recognition in this study focused solely on the idea generation phase. At this phase, there is little risk attached to brainstorming entrepreneurial opportunities. If the brief provided in the experiment had provided scenarios such as, "imagine that these opportunities identified will be presented to venture capitalists for funding" or "consider opportunities in which you would invest your own capital" for example, the financial risk attached to these decision scenarios may have had a greater influence on the regulatory focus state, particularly prevention focus and subsequently the outcome of quality of opportunities identified. In essence, participants may have found the idea generation focus of the experiment a comfort zone, without having to give much thought to putting these ideas to test as there were no benefits to be gained or consequences to be avoided. This could explain why there was no significant effect found for quality of opportunities. Thus, primed situational regulatory focus can influence outcomes, provided the task is designed to prompt the desired outcome effects.

#### **6.4.3. Sample and Instrument Evaluation**

Measuring situational regulatory focus is a difficult task (Wu et al., 2008). The situational regulatory focus measure of media stories created for the experimental design of this study was consistent with empirical situational regulatory focus measures as the media stories were framed as expectancy and value information. The media stories were also pre-tested with a sample prior to the experiment. However given the newness of the instrument and the

experimental design, there is a need for further testing and development of the measure. Future replications of the experiment will yield further reliability testing that builds the robustness of media stories as a situational regulatory focus measure.

Another important consideration is the timeframe for opportunity recognition. Participants, after reading the media story, were given ten minutes to identify opportunities to apply the smart phone technology to the South African market. It can be argued that the timeframe of ten minutes constrained the opportunity recognition process and participants may have either been able to identify more opportunities and/or identify opportunities of a better quality if there was more time. However, timed responses allow researchers to capture unconscious effects of priming, often measured in lab studies by how quickly individuals answer certain questions with the argument that the shorter the response time, the more active the unconscious psychological state in influencing thought. Without timed responses, memories of historical behavioural tendencies would lead to data more indicative of chronic regulatory focus as opposed to the situational regulatory focus state sought as a measure (Wu et al., 2008).

## **6.5. Chronic- Situational Interaction**

### **6.5.1. Results**

#### **Chronic State- Media Stories Interaction**

This study hypothesized that media stories will prime situational regulatory focus which will then interact with chronic regulatory focus to influence opportunity recognition. This hypothesis yielded the main prediction that the interaction effect between chronic regulatory focus and media stories will lead to a stronger effect on opportunity recognition. Results did not confirm this prediction and revealed that there was no significant relationship between the

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interaction of chronic regulatory focus and media and the number of opportunities ( sig = .009,  $p < .05$ ) and the quality of opportunities (sig = .877,  $p < 0.05$ ) identified.

### **Promotion focus and Positive Media Stories**

These hypotheses yielded the main prediction that the interaction effect between chronic promotion focus and exposure to positive media stories will lead to a stronger effect on opportunity recognition; a higher number of opportunities will be identified but these opportunities will be of a lower quality. Results did not confirm this prediction and revealed that there was no significant relationship between the interaction of promotion focus and positive media stories and the number (sig = .242,  $p < 0.05$ ) and quality (sig = .627,  $p < 0.05$ ) of opportunities identified.

### **Prevention Focus and Negative Media Stories**

These hypotheses predicted that the interaction effect between chronic prevention focus and exposure to negative media stories will lead to a stronger influence on opportunity recognition. This will be reflected in a lower number of opportunities identified and a better quality of opportunities identified. Results confirmed this prediction for the number of opportunities identified, (sig = .045,  $p < 0.05$ ) but not for quality of opportunities identified ( sig = .268,  $p < 0.05$ )

### **6.5.2. Link to Literature**

Possible factors that explain the variance in findings for the interaction effects for number of opportunities identified are discussed below.

Firstly, regulatory fit predicts goal achievement and increased task engagement when the outcome focus and the corresponding chronic promotion or prevention focus are compatible with the message frame (Higgins, 2000, 2005; Lee & Aaker, 2004). The central assumption of regulatory fit is that motivation and performance will be greater when the chronic disposition, task incentives and means of goal attainment all share the same regulatory focus than when they do not.

The results however indicate that the only successful match was chronic prevention focus and negative media. It is interesting to note that this result is inconsistent with findings in previous studies that have found stronger relationships or significant results for promotion focused conditions. Wu et al., (2008) found that a leader who adopts a promotion focused approach elicits matching promotion focus behaviour in employees and this leads to increase in employee creativity. Haws et al., (2011) found stronger relationships when chronic promotion focus and a situational promotion manipulation were matched. However, studies testing the concept of regulatory fit are limited (Haws et al., 2011). Thus, the findings for this study could indicate that results can vary based on other factors other than the regulatory fit concept.

A proposed argument for this study is inadequate knowledge of the context played a role in the participants inability to identify high numbers of opportunities that would normally be reflective of a promotion focus state. The participants in the experiment are from 32 different countries in Africa; having lived in South Africa for one to two years at the time of the experiment they have been relatively exposed to the South African environment, however very few of the sample were native South Africans. Whereas the media stories were to play the role of providing the information needed to make opportunity recognition decisions, there key remaining question is how much context is enough for the desired effects to take place.

Perhaps the results may have differed with a predominantly South African sample, as other experiments that are performed with US undergraduate students for example, they would consist of a predominantly American sample assessing an American context. Therefore when knowledge of the context can play a role, this could influence the desired effects or outcomes.

The theory of entrepreneurial alertness also provides a possible explanation to the variation in predicted responses that the results revealed. Some participants may not have been receptive to the opportunity recognition exercise and thus did not engage as expected. Ardichvili et al., (2003) note that the alertness process is shaped by the type of opportunity. For these potentially non-alert participants, there could have been a lack of interest in the smart phone technology provided for opportunity identification or other factors such as lower levels of creativity that influenced the variation in responses. It would be interesting to see whether the entrepreneurial alertness of these individuals could be stimulated with non-technology related opportunities. A consideration for expanding the ecological validity would be to use different types of platforms for opportunity recognition such as new market trends and venture expansion strategies.

There are several possible explanations for the consistent failed predictions for quality of opportunities for both promotion and prevention focused conditions. Discussions of regulatory fit would appear to provide support for the argument that quality of opportunities should be the best predictor of prevention focus as the nature of this goal reflects the prevention focused approach of avoidance of errors and caution to risk-taking. Perhaps the goal-directed outcomes sought in the experiment were not reflective of prevention focus goals (Wu et al., 2008). The value from fit to be gained was thus inhibited and this reflected in the results for quality of opportunities. In addition, had the opportunity recognition task included an element of idea

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screening and not a sole focus on idea generation, this would have been aligned with a prevention focus orientation (Brockner et al., 2004).

The 'framing' and 'agenda' of the media stories used in the experiment was goal-directed to influence the perceptions of participants on the South African macro environment which would then impact their opportunity recognition process. However, the lack of significant results for quality of opportunities suggests that the media stories may not have stimulated enough entrepreneurial alertness among participants. Arguably, an individual must be in a state of entrepreneurial alertness to recognise viable opportunities. If the schema of individuals that prompts this alertness is not strongly activated or perhaps even deactivated based on information provided by the media on the macro environment, then this affects their thinking on what constitutes a viable entrepreneurial opportunity or whether it is even worth taking the risk to explore any opportunities.

### **6.5.3. Sample and Instrument Evaluation**

Important points for discussion are whether the aspects of the experimental design influenced the general result of lack of significance of an interactive effect between chronic and situational regulatory focus as proposed in this study.

The first point for consideration is the choice of sample/population. As discussed in chapter four, the population of the African Leadership Academy presented an interesting choice because (1) all students at the Academy study entrepreneurship, and as a curriculum requirement are engaged in business or social ventures and (2) the selection of sample from this population ensured sample homogeneity in regard to age range and prior knowledge and experience, as the students had all been exposed to the same curriculum and training.

A common criticism of experimental design is the use of students as samples. The argument is that students are typically novices and do not possess the knowledge structures of people with more extensive experience in a particular field, thus for this study other samples such as MBA students, entrepreneurs or organizational leaders could have been a more ideal choice. These alternative samples present avenues for replication of the experiment and future research, however, given the novelty of this study, the choice of this sample is valid for two important reasons.

Firstly, the sample has a comparable age range (16-22 years) of the commonly used sample of American undergraduate students in empirical studies in the field (Forster et al., 2003; Higgins, 1998,2002; Lee & Aaker, 2004; Haws et al.,2011). A comparable sample strengthens the relevance of findings of the study. Secondly, to be able to isolate the media as an antecedent factor of information and prior knowledge in a lab setting, it was important to be able to distinguish this effect from other external sources of prior knowledge and experience; using a sample such as MBA students would have made this a daunting task as the age, maturity, varying experience and exposure of MBA candidates makes it more challenging to control for prior knowledge and experience.

Another consideration is the use of other forms of media apart from news stories could yield interesting findings. In the digital age we live in today, other channels, particularly the internet has overshadowed and undermined the power of mass media. Another version of the experiment could present a media clip versus a print media story; this graphic visualization will potentially serve as a stronger influence on a youthful sample born in the digital age or aid understanding for individuals new to a particular context. A medium of communication that

resonates strongly with the individual could thus potentially elicit a stronger feeling of fit to result in matched chronic and situational regulatory states.

## 6.6. Summary and Interpretation of Findings

The research objective of this study was to explore the role and interaction of self-regulation: promotion and prevention focus, and the media on opportunity recognition. The study sought to examine and explain the simultaneous effect of knowledge (media) and motivation (regulatory focus) on an individual's ability to recognise opportunities. It was hypothesized that media stories are a source of situational regulatory focus which interacts with chronic regulatory focus to influence opportunity recognition outcomes.

The overall results of the experimental design demonstrate that (1) media stories prime situational regulatory focus, (2) there is only a significant interaction effect to be observed between chronic regulatory focus and media stories, when it is a prevention focus state and negative media story, and only with number of opportunities. No main or interaction effect was found for the quality of opportunities.

The individual contributions of the independent variables to the model revealed variation in responses particularly for prevention focus and negative media stories which yielded a significant effect on the number of opportunities. This speaks to individual differences such as entrepreneurial alertness and the concept of regulatory fit and context discussed above. Overall, the findings of the study have confirmed that there is an influence of media on opportunity recognition.

## CHAPTER 7: CONCLUSION

### 7.1 Introduction

In conclusion, this chapter outlines the contributions of the study to theory and practice. Limitations to the study are considered and recommendations are offered for future research.

### 7.2 Theoretical Implications

The findings presented in chapter six have several implications for theory building and testing in entrepreneurship research.

Firstly, this study introduces the first measure of the influence of media on opportunity recognition. Despite the increasing attention to antecedent factors that influence the opportunity recognition process such as special-interest knowledge of markets, creativity and social networks, the media as a factor has not yet been tested. One possible explanation for the dearth of empirical studies could be the challenge of distinguishing the effect of the media from other environmental factors. In addition regulatory focus theory is a young field of research, thus applications of this theory will continue to emerge over time.

Secondly, the findings of this study represent further investigation into the application of regulatory focus theory to the field of entrepreneurship research. Specifically this study investigated the relationship between chronic regulatory orientation and opportunity recognition. The experimental design dug deeper to the interaction of chronic regulatory focus (promotion and prevention focus) and situational regulatory focus manipulated by media stories (positive and negative media stories) to attempt to explain the outcomes of opportunity

recognition. This builds on previous research that sought to investigate the potential of interaction between an individual's chronic goal orientation and a situational manipulation, using promotion and prevention framed products and messages to manipulate regulatory focus (Haws et al., 2011).

Thirdly, the conceptual framework (see Figure 1.1.) used to provide a regulatory focus theory based perspective on opportunity recognition can be adapted to explain other parts of the entrepreneurial process such as opportunity evaluation and market testing. This framework can be used to investigate the interaction between underlying factors reflecting the individual and the environment that influence entrepreneurial action. The experimental research design used in this study allowed for the empirical examination of the relationship between regulatory focus and opportunity recognition. In doing so, the study makes important contributions to the existing opportunity recognition literature.

Entrepreneurship research is a complex field as there are a host of factors that can explain entrepreneurial behaviour and outcomes; thus, it is a challenging process to establish correlation between the antecedent factors that lead to entrepreneurial action. This emphasizes the importance of developing and testing concepts empirically and summarizes the contributions of this study to entrepreneurship research.

### **7.3 Practical Implications**

Entrepreneurial opportunity recognition is the foundation of entrepreneurial activity; it comes before all else. For entrepreneurs understanding how knowledge and motivation interact to influence the outcome of the opportunity recognition process translates regulatory focus into a useful tool to leverage the advantages of regulatory focus, especially when starting new

ventures. Founding teams can create promotion focused scenarios for when abundance of ideas is desired e.g. innovative marketing strategies or prevention focused scenarios for when careful thought is needed e.g. allocation of scarce resources normally the case of start-ups. Similar applications can be considered for entrepreneurial decision –making in a broader sense.

The findings of significance for prevention focus and negative media interaction despite the overall insignificance for the interaction effect of chronic and situational regulatory focus, and findings in empirical studies suggests that the potential exists to manipulate situational regulatory focus to match chronic states for desired outcomes.

For entrepreneurship educators, this provides remarkable insight for experiential and outcome-based learning. Being able to foster opportunity recognition and entrepreneurial action amongst students through the use of appropriate primes is a creative pedagogical approach to entrepreneurship. The findings of this study are especially interesting for educators as all participants in the sample study entrepreneurship.

For public policy to create an entrepreneurially alert nation requires the dissemination of knowledge and formulation of appropriately framed policies that encourage the growth and development of entrepreneurship. Findings extend beyond entrepreneurship to the wider society. For business, messages can be framed to influence consumer behaviour; organizations can use regulatory focus to motivate employees, craft missions and vision and design reward systems. For politicians promotion and prevention focused messages present an opportunity to inspire desired action; President Obama’s “yes you can” promotion focused messaging brand of his victorious election campaign is one such example.

## 7.4 Limitations of research

It is important to note that despite the significant contributions of this study to entrepreneurship research, there are some limitations.

The experimental design used in this study is a new design; the various instruments used were pre-tested prior to the experiment, however given the newness of the instrument and the experimental design, there is a need for further testing and development of the measure. Future replications of the experiment will yield further reliability testing that builds the robustness of media stories as a situational regulatory focus measure.

In addition, there is always the risk of the presence of external factors in any research design. Though the experimental design was carefully manipulated to focus participants attention on the media stories as the source of information on the South African environment, existing sources of prior knowledge could have been an influence on the cognitive processing of this information by some participants. The findings may also be context specific, as macro environment dynamics, the media and related perceptions may vary in different geographies and cultural contexts. There may be a lack of freedom of press in some countries with the public agenda centrally controlled; other countries may have wider and easier access to information, thus weakening media influence or for some countries citizens may be more sensitive and more easily influenced by the framing messages. Additional research in the area of study may help distinguish other important effects.

Another limitation to the study concerns the generalizability of results. Some characteristics of the sample in the experiment (e.g experience, age, gender) are comparable to other potential samples such as undergraduate students or entrepreneurship students; nevertheless, the question of whether the findings apply to a population beyond that of the identified samples to

others such as seasoned entrepreneurs, leaders of organizations or to different cultural, geographical and market opportunity contexts remains valid. This suggests important avenues for future research in terms of replicating the experiment across these different samples and contexts.

## 7.5. Recommendations for future research

Although the findings suggest that media stories influence opportunity recognition by eliciting a situational regulatory state of promotion focus or prevention focus in the individual, the media is not the only factor capable of exerting such an influence. Future research may seek to measure situational regulatory focus by examining its relationship with various other antecedent factors. In addition, regulatory focus theory is a psychological theory and the use of this theory to explain entrepreneurial opportunity recognition raises the possibility of wider theoretical applications in the field of entrepreneurship.

For this sample, if age is considered as a proxy for experience, it would be interesting to replicate this study with another sample such as existing entrepreneurs or MBA students with years of corporate experience. Coupled with this, the timeframe for opportunity recognition was limited to ten minutes in this study; future research could explore a broader iterative process of opportunity recognition over a longitudinal time frame to help distinguish other important effects.

As discussed earlier, future research can also consider replicating this experiment in different contexts. This will include not only geographical contexts but also adaptation of the media instrument in the experimental design to reflect different local macro-environments apart from South Africa.

## 7.6 Concluding Remarks

To conclude, this study has established that the media does indeed influence opportunity recognition. The purpose of this research study was to investigate the interaction of the person and the environment by using media stories on the macro environment as a prime for situational regulatory focus. Regulatory focus theory has been used to predict and explain the outcome of opportunity recognition. This study builds on and expands recent work done to explore situational and chronic regulatory focus interaction by extending regulatory focus theory to the process and outcomes of opportunity recognition. The study merged individual differences and situational variables in an attempt to understand the antecedent factors of opportunity recognition.

This study has provided a pioneering contribution to the field of entrepreneurship research. This exploration was not without its limitations but in opening the doors of new academic discovery, there are always risks and there will always be challenges; it is in navigating through these challenges that academia continues to expand the body of knowledge needed for a changing world. The study aimed to push beyond the boundaries of current entrepreneurship research, especially within an African context where few empirical studies of this nature exist by testing existing theory and exploring new ground. It is the hope that this bold leap provides insight and direction to a continued path of discovery for future researchers.

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# APPENDICES

## APPENDIX A

### Stage One of Experiment: Regulatory Focus Composite Scale Measure

Dear Respondent,

Thank you for your willingness to complete this questionnaire. The purpose of the questionnaire is to conduct a personality assessment as part of a study assessing the impact of personality types on opportunity recognition. The questionnaire should not take more than 5 minutes to complete. This is an anonymous and confidential survey and the answers you provide will be used for research purposes only. Feel free to email [dinahhanson@gmail.com](mailto:dinahhanson@gmail.com) if you have any questions about the study.

#### Instructions

Please read carefully each question and then rate how strongly you agree or disagree with each of the following statements by placing a check mark in the appropriate box. Please answer all questions. There are no right or wrong answers. I am interested in understanding your perspective.

Gender: Male  Female  Age \_\_\_\_\_ Country of Origin: \_\_\_\_\_

Education Level: A-Level Year1  A-Level Year 2  Cell Phone Number \_\_\_\_\_

	Number of customers	Frequency of purchase	Cost of Production	Price of Product	For office use only
1. Which variable should <u>NOT</u> be used in estimating market size?	1	2	3	4	<b>F1</b> <input type="checkbox"/>

Promotion Focus: 5 measures

	Strongly Disagree	Disagree	Disagree Somewhat	Undecided	Agree Somewhat	Agree	Strongly Agree	For office use only
1. When it comes to achieving things that are important to me, I find that I don't perform well as I would ideally like to do.	1	2	3	4	5	6	7	V1 <input type="checkbox"/>
2. I feel like I have made progress toward being successful in my life.	1	2	3	4	5	6	7	V2 <input type="checkbox"/>
3. When I see an opportunity for something I like, I get excited right away.	1	2	3	4	5	6	7	V3 <input type="checkbox"/>
4. I frequently imagine how I will achieve my hopes and aspirations	1	2	3	4	5	6	7	V4 <input type="checkbox"/>
5. I see myself as someone who is primarily striving to reach my "ideal self" – to fulfil my hopes, wishes and aspirations	1	2	3	4	5	6	7	V5 <input type="checkbox"/>

Prevention Focus: 5 measures

	Strongly Disagree	Disagree	Disagree Somewhat	Undecided	Agree Somewhat	Agree	Strongly Agree	For office use only
1. I usually obeyed rules and regulations that were established by my parents.	1	2	3	4	5	6	7	Q1 <input type="checkbox"/>
2. Not being careful enough has gotten me into trouble at times.	1	2	3	4	5	6	7	Q2 <input type="checkbox"/>
3. I worry about making mistakes.	1	2	3	4	5	6	7	Q3 <input type="checkbox"/>
4. I frequently think about how I can prevent failures in my life.	1	2	3	4	5	6	7	Q4 <input type="checkbox"/>
5. I see myself as someone who is primarily striving to become the self I "ought" to be- fulfil my duties, responsibilities and obligations.	1	2	3	4	5	6	7	Q5 <input type="checkbox"/>

## APPENDIX B

### Stage Two of Experiment: Positive Media Version

#### Part 1: Instructions

Read the story below on South Africa and answer the review questions that follow. This is a comprehension exercise to assess your ability to grasp important concepts within a short time frame. You have 7 minutes to read the story and 3 minutes to answer the questions.

#### South Africa: An Analysis of Africa's Biggest Economy

South Africa is the newest member of the BRICs, a club of regional power brokers embracing Brazil, Russia, India and China, which have recently shown a desire to use their combined size and economic might—together they account for 40% of the world's population—to counter the West's global dominion. The spectacular host to the first ever World Cup on African soil in 2010, South Africa is Africa's biggest economy with attractions including its banking system and infrastructure.

Though the country continues to deal with high unemployment currently at 25%, a new generation of consumers is changing the economy. After the apartheid era gave way to a multiracial democracy in 1994, a black middle class has emerged. The middle class now comprises one-third of the country's 51 million strong population, making the middle class larger than the national population of many European Union member states. Consumer spending continues to rise; the Reserve Bank reported that household spending grew by 5.1% in the fourth quarter of last year. The Government has also put in place a New Growth Path plan to restructure the economy and labour laws, aimed to create 5 million jobs over the next ten years.

PricewaterhouseCoopers, a leading global firm, expects South Africa to be the world's seventh-fastest growing economy up to 2050, with growth averaging 5% yearly. Regional growth prospects also make South Africa the ideal gateway for a continent with one billion inhabitants.

South Africa's time has come indeed!

#### Review Questions

The BRICS consist of all these countries except:

Brazil  China  South Korea  India

The unemployment rate in South Africa is:

26%      23%       21%       25%

The population of South Africa is:

48m  50m  51m  53m

What did the Reserve Bank report on?

Household Income  Consumer Debt

Disposable Income  Household Spending

What is the predicted average growth rate of South Africa?

5%    7%     5.5%        5.1%

## Part 2: Instructions

Read the brief excerpt below on the smart phone mobile technology and identify entrepreneurial opportunities to apply this technology to the South African market.

Opportunities could range from new products and services to an addition of a new process/innovation to existing products and services; it could be a business opportunity or a social venture; it could be delivered by the public sector/government or the private sector

The South African market will be the consumer base you will be targeting with your identified opportunities. You have 10 minutes to do this exercise.

### The smartphone

There is no standard definition to describe exactly what makes a smartphone, but the term is commonly used to refer to a mobile phone with more advanced features, communication and computing functions and capabilities than an average handset. Examples of features include Global Positioning Systems (GPS), virtually unlimited data transfer and easy sharing capabilities. The smartphone is emerging as the main technology platform in the mobile marketplace with worldwide sales of smartphones set to leap 140% next year. Nokia, Apple (iphone), RIM (Blackberry), Samsung and HTC are the top five global smart phone vendors. In South Africa, the Mobile Corporation in SA 2010 report reveals that three quarters of South African companies have deployed smartphones within their organisations, compared to almost none two years ago.

Put each opportunity you identify in a separate box provided below.

## Stage Two of Experiment: Negative Media Version

### Part 1: Instructions

Read the story below on South Africa and answer the review questions that follow. This is a comprehension exercise to assess your ability to grasp important concepts within a short time frame. You have 7 minutes to read the story and 3 minutes to answer the questions.

### South Africa: An Analysis of Africa's Biggest Economy

South Africa is Africa's biggest economy with attractions including its banking system and infrastructure. However, South Africa has a high unemployment rate currently at 25%. The government has put in place a New Growth Path plan to restructure the economy and labour laws, but economists say the measures will worsen unemployment and increase costs on employers.

A new generation of consumers seems to be changing the economy; a black middle class has emerged, after the apartheid era gave way to a multiracial democracy in 1994. This middle class now comprises one-third of the country's 51 million strong population, but what about the millions that continue to live in abject poverty lacking access to basic services? Consumer spending continues to rise; the Reserve Bank reported that household spending increased by 5.1% in the fourth quarter of last year. This news is however overshadowed by the fact that consumers have high levels of debt, reducing disposable income (spending income).

PricewaterhouseCoopers, a leading global firm, expects South Africa to be the world's seventh-fastest growing economy up to 2050, with growth averaging 5% yearly, but how many jobs will it create and what difference will it make?

Recently South Africa became the newest member of the BRICS, a club of regional power brokers embracing Brazil, Russia, India and China, which have recently shown a desire to use their combined size and economic might—together they account for 40% of the world's population—to counter the West's global dominion. However, is South Africa deserving of BRIC membership? Only time will tell.

### Review Questions

The BRICS consist of all these countries except:

Brazil  China  South Korea  India

The unemployment rate in South Africa is:

26%      23%       21%       25%

The population of South Africa is:

48m       50m       51m       53m

What did the Reserve Bank report on?

Household Income       Consumer Debt

Disposable Income       Household Spending

What is the predicted average growth rate of South Africa?

7%  6.5%  5.1%

## Part 2: Instructions

Read the brief excerpt below on the smart phone mobile technology and identify entrepreneurial opportunities to apply this technology to the South African market.

Opportunities could range from new products and services to an addition of a new process/innovation to existing products and services; it could be a business opportunity or a social venture; it could be delivered by the public sector/government or the private sector

The South African market will be the consumer base you will be targeting with your identified opportunities. You have 10 minutes to do this exercise.

### The smartphone

There is no standard definition to describe exactly what makes a smartphone, but the term is commonly used to refer to a mobile phone with more advanced features, communication and computing functions and capabilities than an average handset. Examples of features include Global Positioning Systems (GPS), virtually unlimited data transfer and easy sharing capabilities. The smartphone is emerging as the main technology platform in the mobile marketplace with worldwide sales of smartphones set to leap 140% next year. Nokia, Apple (iphone), RIM (Blackberry), Samsung and HTC are the top five global smart phone vendors. In South Africa, the Mobile Corporation in SA 2010 report reveals that three quarters of South African companies have deployed smartphones within their organisations, compared to almost none two years ago.

Put each opportunity you identify in a separate box provided below.

## **APPENDIX C**

### **Post Experiment: Opportunity Evaluation**

Dear Judge,

Thank you for your willingness to participate in this opportunity evaluation exercise.

#### **Instructions**

The market, required financial and technical resources, product features and the team are typical feasibility criteria considered in evaluating the viability of an opportunity. For this exercise, based on your gut reaction and expertise in business development, provide a personal assessment of the opportunities identified. Please evaluate the ideas and rate on a scale of 1-5 from strongly disagree (1) that this is NOT a viable opportunity to strongly agree (5) that this IS a viable opportunity.

#### **Judging Process**

There are 3 judges in total. Each judge will independently assign a number (score) each idea. The 3 scores will then be totalled for the average.



Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree	Score
1	2	3	4	5	P1 <input type="checkbox"/>
1	2	3	4	5	P2 <input type="checkbox"/>
1	2	3	4	5	P3 <input type="checkbox"/>
1	2	3	4	5	P4 <input type="checkbox"/>
1	2	3	4	5	P5 <input type="checkbox"/>
1	2	3	4	5	P6 <input type="checkbox"/>
1	2	3	4	5	P7 <input type="checkbox"/>
1	2	3	4	5	P8 <input type="checkbox"/>
1	2	3	4	5	P9 <input type="checkbox"/>
1	2	3	4	5	P10 <input type="checkbox"/>
1	2	3	4	5	P11 <input type="checkbox"/>
1	2	3	4	5	P12 <input type="checkbox"/>
1	2	3	4	5	P13 <input type="checkbox"/>
1	2	3	4	5	P14 <input type="checkbox"/>
1	2	3	4	5	P15 <input type="checkbox"/>