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ABSTRACT
This paper has two primary purposes; first, we expand confines of Resource Opportunity (hence forth referred to as; RO) by introducing two entrepreneurial concepts: 1) entrepreneurial recognition, which we describe as the recognition of opportunities and opportunity seeking behaviour as a resource and 2) the method of combining and organizing resources as a resource. The second objective is to build theory for the field of entrepreneurship that can potentially cover micro and macro issues by focusing on the resources as the unit of analysis. This attempt is ordered around the four conditions of RO: resource heterogeneity, ex post limits to competition, imperfect factor mobility and ex ante limits to competition. By defining entrepreneurship which we define as the recognition and exploitation of opportunities which result in firm creation that seeks to obtain entrepreneurial rents, through the four conditions of RO we hypothetically inform and expand current research in both entrepreneurship and RO.

Introduction
Early work on Resource Opportunity (RO) accepted that entrepreneurship is a complex part of resource based framework Conner, (1991; Rumelt, (1987). However, while RO has become a central paradigm for strategic management research Peteraf, (1993), the crossing point between RO and entrepreneurship has amounted to little more than providing a ‘research setting’ for empirical work (e.g. Chandler & Hanks, 1994). Because of the lack of concern given to entrepreneurship by most resource-based research, current RO largely fails to incorporate creativity and the entrepreneurial act Barney,(2001).

An understanding of how entrepreneurial actions, the creation and combining of resources that create new heterogeneous resources, can inform RO by suggesting other uses of resources that have not been earlier discovered leading to heterogeneous firm resources. It is the firm’s distinctive bundle of resources that is different from competitor firms that are potentially valuable and add to a firm’s competitive advantage.

Alternatively, entrepreneurship and RO adopts exactly the same unit of analysis i.e. the resource. These resources may present themselves in different ways. For example firm specific resources may mirror cognitive differences between managers in these firms. The various ways that resources and opportunities to exploit these resources manifest themselves have resulted in different units of analysis and has delayed good theory development in the field of entrepreneurship. In this work we examine entrepreneurship from perspective of individual opportunity recognition, to the market, to the firm’s organizational capabilities, however in all three instances the resource is the unit of analysis. Through the integration of resources, from cognitive differences to opportunity recognition to the ability to organize these resources into a firm, we may begin to attend to the issue of the typical area of entrepreneurship. Oni & Omin (2010)

This paper has two main objectives. First, we expand confines of RO by introducing two entrepreneurial concepts: 1) entrepreneurial recognition, which we describe as the recognition of opportunities and opportunity seeking behaviour as a resource and 2) the method of combining and organizing resources as a resource. The second objective is to build theory for the field of entrepreneurship that can potentially cover micro and macro issues by focusing on the resources as the unit of analysis. This attempt is ordered around the four conditions of RO: resource heterogeneity, ex post limits to competition, imperfect factor mobility and ex ante limits to competition. By defining entrepreneurship which we define as the recognition and exploitation of opportunities which result in firm creation that seeks to obtain entrepreneurial rents, through the four conditions of RO we hypothetically inform and expand current research in both entrepreneurship and RO.

forms of resources
The different form of resource is the most basic condition of RO; also called Resource Heterogeneity, and it assumes at least that some resource bundles and capabilities essential to production are heterogeneous across firms Barney, (1991). RO suggest that heterogeneity is needed but not adequate for sustainable advantage. For example a firm can have heterogeneous assets, but not the other conditions suggested by RO, and those assets will only generate a short term advantage pending when they are initiated.

Since 1991 strategy researchers have become all the time more aware of the importance of heterogeneous firm asset in achieving a firm’s sustainable competitive advantage. Barney (1986) and Dierickx and Cool (1989) were the first to draw attention to the importance of tacit social assets. Ironically scant attention is given to the process by which these resources are revealed, turned from inputs into heterogeneous outputs, and exploited for greater profits. Thus we argue that entrepreneurship is about cognition, discovery, pursuing market opportunities and coordinating knowledge that leads to heterogeneous outputs.

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Opportunity Cognition and Forms of resources

There is probably no group of individuals that have received discussion and have been assumed to be heterogeneous from the rest of the population than entrepreneurs. Recently the emergence of cognitive approach to understanding the way entrepreneurs think and make strategic decisions is showing much promise (Busenitz & Barney, 1997; Baron, 1998; Forbes, 1999). If entrepreneurship do indeed have unique mindset or orientation (Lumpkin & Dess, 1996), then it follows that their cognitive approaches are likely to have strengths and weakness in various competitive environments and are potential source of competitive advantage (Barney, 1991).

In expounding how entrepreneurs think, Busenitz and Barney (1997) found that entrepreneurs use heuristics more extensively than managers in larger organization. The term “heuristics” refers to simplifying strategies individuals use to make tactical decisions, especially in difficult situations where less complete or uncertain information is available. The result is that entrepreneurs often make significant leaps in their thinking leading to innovative ideas that are not always very linear and factually based. Without attention to these cognitive processes our understanding of entrepreneurs is significantly limited.

Central to most models of learning is the issue of achieving new understandings, interpretation and insights (Daft & Weick, 1984). Sources of competitive advantage are thought to evolve around knowledge creation and decision making capabilities (Barney, 1991). Lower level learning tends to follow the more rational model by focusing on repetitious observation and routinized learning. Such learning tends to be short term and temporary (Fiol & Lyles, 1985). Higher level learning involves the formation and use of heuristics to generate new insights into solving ambiguous problems (Lei et al. 1996). While heuristic based logic may use less information and be less accurate, use of individual-specific clusters of knowledge facilitates quick adjustments to emerging trends (Kraburnat & Phelps, 1998).

In sum, it appears that those who use heuristic-based logic cannot only make faster decision, but they also learn quickly. We argue here that those with an entrepreneurial cognition can facilitate a potential competitive advantage in at least two ways. The first area has to do with discovery of new opportunities; the second area involves the development of a firm in its initial stages of organizational development. As discussed below.

Entrepreneurial breakthrough and Forms of Resources (Heterogeneity)

One of the fundamental reasons with the fascination with entrepreneurs and the inventions that they develop seems to centre on why and how they see new opportunities. The cognitive ability of entrepreneurs to see and frame situations in an opportunistic manner is a heterogeneous resource that can be used to organize other resources.

Explanations for entrepreneurial discovery have evolved primarily around two perspectives: (1) the searching for and obtaining of information leading to new inventions and (2) the recognition process by which new discoveries are made. From the search perspective, discoveries are generally modelled to be the result of an extensive search targeted in the direction where the discovery is to be made (Caplan, 1991). In arguing that search for discovery cannot be accurately modelled as a rational search process, Austrian economists have posited that the focus should be on the process side of the discovery. More explicitly, Kirzner (1979) developed the term “entrepreneurial alertness” as the ability to see where products (or services) do not exist, or have unexpectedly emerged as valuable. Alertness exist when one individual has an insight into the value of given resource when others do not. In distinguishing between entrepreneurial alertness and knowledge expert, Kirzner (1979) argues that knowledge expert does not fully recognize the value of their knowledge or how to turn that knowledge into profit or else the expert would have been an entrepreneur. While the entrepreneur may have specialized knowledge it is the tacit generalized knowledge of how to organize special knowledge that is the entrepreneur’s critical intangible resource.

As we uncover the phenomenon surrounding the entrepreneurial cognition, it is becoming clearer why entrepreneurs see new move readily than their counterparts. Their heuristic based logic tend to give them a competitive advantage in quickly learning about new changes and what the implications of those changes are for the development of new discoveries. Oni (2012)

Market Opportunities and Forms of Resources (Heterogeneity)

There has been debates on whether or not the perfect competition model applies in explaining entrepreneurial behaviour Kirzner, (1977); Shane & Venkataraman, (2000) however a second, albeit related, question has received less attention: under what conditions can entrepreneurial opportunities be most efficiently realized through market exchanges, and under what conditions can they be realized through non-market forms of exchanges.

Entrepreneurs can use market forms of governance to coordinate many resources necessary to realize economic opportunities; they also can use a firm, as a form of hierarchical governance, to realize these opportunities. The question then becomes when is it less costly for entrepreneurs to coordinate resources and disparate knowledge needed for economic opportunity through a firm and when is it less costly for market to coordinate these resources? The answer to these questions will constitute theory of the entrepreneurial firm.

The entrepreneur’s ability to convert creative insights and often homogeneous inputs into heterogeneous outputs make the firm a superior choice over the market. The classic story is that profit maximization and efficiency requires the substitution of firm for market if the cost for using the market becomes large relative to the cost of the entrepreneur forming a firm. In its most simplest form if the market transaction cost is zero and the entrepreneurial firm cost is greater than zero the entrepreneurial firm will not exist. However because knowledge is not free and it does differ across firms, firms are heterogeneous and the entrepreneur’s coordination of disparate specialized knowledge makes the heterogeneous firm superior choice over markets.

Harmonized Knowledge and Forms of Resources (Heterogeneity)

Both Kirzner (1979) and Schumpeter (1934) describe the entrepreneurial role as the decision direct inputs into certain processes rather than into other processes. Entrepreneurship involves what Schumpeter termed “new combinations” of resources. Schumpeter suggested five situations where the phenomenons of bundling resources by entrepreneurs to produce new resources occur. The entrepreneur reforms or revolutionizes the pattern of production by exploiting an invention or an untried technology for producing a new commodity or producing an old one in a new way, by opening up new sources of supply of materials, or a new outlet for products, or by reorganizing an industry Schumpeter, ( 1934).
The focus of most current entrepreneurship research into opportunities has been on markets Kirzner, (1997). However, one of the discussions turn into factor markets and thus production (the creation of value through the transformation of inputs into output) this becomes the need for coordination of numerous types of specialized knowledge Grant & Baden-Fuller, (1995).

The entrepreneurial problem is how to secure the best use of resources to obtain a profit. Thus entrepreneurial knowledge is an abstract one of where and how to obtain these resources. When market is unable to organize distributed knowledge the entrepreneur understand this and capitalizes on the opportunity resulting in a new firm. Oni & Daniya (2012)

Kirzner (1979) distinguishes between entrepreneurial knowledge and knowledge expert, suggesting that it is the entrepreneur that hires the latter. The entrepreneur may not have the depth of knowledge that the specialist has but it is the entrepreneur that recognizes the value and opportunity of the specialist’s knowledge. Thus the knowledge expert has specialized knowledge and the entrepreneur has generalized knowledge and it is through the firm that the two types of knowledge are joined to produce rent.

Ex Post Confines to Competition

Regardless of the nature of the firms heterogeneity, sustained competitive advantage requires that heterogeneity be preserved. If heterogeneity is not durable it will not add sustained value. This is the case when there is ex post limits to competition. Subsequent to a firm gaining a superior position there must be forces that limit competition Peteraf, (1993), otherwise heterogeneous advantage dissipate.

Entrepreneurial Cognition and Competition

We focus here on the cognitive make-up and beliefs of individual entrepreneurs. Rather the focus being on the long term outcome of an entrepreneurial firm, we are interested in a better understanding of how those with an entrepreneurial cognition see opportunities that others have overlooked and how they are able to bootstrap together the necessary resources to start firms that attempt to exploit entrepreneurial opportunities. Most individuals tend to be concerned with protecting themselves from emerging threats and changes, particularly in uncertain environments, while those with entrepreneurial cognition continue to probe for new opportunities. Rosa and Scott (1999) found that the greatest growth occurred in companies that were embryonic business cluster rather than a single one-dimensional business. This suggests that source of new high growth potential business tends to come from entrepreneurs with existing business. Their unique ways of thinking and experience with earlier ventures seems to provide corridor for additional entrepreneurial pursuit.

Opportunity Identification

Given that individual characteristics and decision styles cannot be transferred to would be entrepreneurs, it becomes apparent that they are sources of competitive advantage in the entrepreneurial domain. We argue that this is true for entrepreneurial recognition for the following reason. Those with entrepreneurial cognition perspectives tend to use heuristic based rather than factual based logic often leading them to develop and organize resources in new ways. Information is certainly important to those with heuristic based logic; however, it is often organized in non-traditional nonlinear manner. Since new inventions and opportunities rarely evolve in logical manner, those with a factual based logic tend to become frustrated by the nonlinearity of opportunity recognition while those with heuristic based logic tend to thrive in it.

Tactical Complementarity

Schumpeter theorized that innovation proceeded in a jerky rather than an even fashion. After the initial entrepreneur has introduced a breakthrough innovation with some initial success, other less capable entrepreneurs emerge with new business and incremental innovations that “swarm” the new enterprise with similar look alike imitations. The innovative success of the lead entrepreneur results in the increase in the prices of means of production.

Schumpeter suggests that new combinations of resources are new ways of competing and that these new ways of competing do not as a rule come from existing firms but rather new firms that develop alongside established firms. This is consistent with the notion of strategic complementarity that suggests that when quantities of capital goods that are complements go up because of increased demand, the marginal productivity of the good is raised and the demand goes up. However, as firms get larger the cost of organizing additional transactions within the firm may rise and the returns to the entrepreneurial function decrease (Coase, (1937). When a firm reaches the point where the cost of organizing an extra transaction becomes equal to the market costs either the market will organise the transactions or new entrepreneurs will enter and organize the new knowledge. The entrepreneurial knowledge of resource reorganization that is critical to the transformation of inputs to heterogeneous outputs becomes lost as a firm grows Coase, (1937) and the now large firm begins to resemble the market.

Deficient Factor Mobility

In discussing the imitation of valuable notable asset stocks, Dierickx and Cool (1989), argued that the imitability of assets depends on the process by which it was accumulated. They identified the following reasons under which imitation may be limited: time compression dis-economies, asset mass efficiencies, interconnectedness of asset stocks, asset erosion, and causal ambiguity. The importance of resource opportunity is that these assets are inimitable because they have a strong tacit dimension and are socially complex.

Social Complexity and Entrepreneurship

When a firm’s resource and capabilities are socially complex they are likely to be sources of social heterogeneity Barney, (1995). Socially complex resources may be difficult to imitate because they are complex phenomena that are hard to systematically manage and influence. The condition for social complexity is important to entrepreneurship because it reminds us that complex technologies are not imperfectly imitable. An entrepreneurial firm with complex technology needs additional exploitation knowledge (such as entrepreneurial knowledge) to fully exploit its specialized knowledge (the technology) and sustain heterogeneity.

Combining Resources

If we assume that entrepreneurship is as Schumpeter suggested, new production functions, then firm heterogeneity is an outcome rather than a given Rumelt, (1984). Resource opportunity extends the product market view to include factor markets and suggested that firms wishing to obtain above normal returns from implementing factor market strategies must be consistently better informed about the future value of those strategies than other firms in the same market Barney, (1986).
During the process of rebundling resources, waste occurs through knowledge imperfections. In the bundling of resources, entrepreneurs use their available information to make decisions to produce a product that utilize the available resources in a superior and more efficient manner. The information owned by the entrepreneurs is deeply embedded, socially complex know how of how to recombine resources and this know how combined with entrepreneurial decision making is a source of firm heterogeneity.

**Ex Ante Confines to Competition**

The last condition for a sustainable advantage is that there must be ex ante limits to competition. In other words for a firm to enjoy a sustainable advantageous position there must be limits to competition. As discussed above, Schumpeter’s business cycles start with equilibrium and then the entrepreneur disrupts the cycle through innovation. Other less capable entrepreneurs imitating the innovation and dissipating the competitive advantage of the first firm the follow this disruption. Schumpeter (1934) called the down time of depression.

However, if the entrepreneurial firm has resources that are causally ambiguous these resources’ will be costly and difficult to imitate and the advantage enjoyed by the first firm will not dissipate. Causal ambiguity is a barrier to entrance for potential competitors because it is almost impossible to imitate a product that has ambiguous factors.

However as firms get larger the cost of organizing additional transactions within the firm may rise and the returns to the entrepreneurial function decreases Coase, (1937). Once a firm reaches a point where the cost of organizing an extra transaction becomes equal to the market costs either the market will organize the transactions or a new entrepreneur will enter and organize a new knowledge. Despite the survival problems with small firms, Coase (1937) theorized that innovation and entrepreneurship are particular to the small firm.

**Conclusion**

We have examined the role of entrepreneurial resources within the RO and advance entrepreneurship theory by suggesting how these resources might be unique to entrepreneurship. By focussing on resources, from opportunity recognition to the ability to organize these resources into a firm and then to the creation of heterogeneous outputs through the firm that are superior to the market, we help identify issues that begin to address the distinctive domain of entrepreneurship. We can now also begin to probe when the entrepreneurial firm is a superior choice to the market for the exploitation of new opportunities.

While firm performance is an expected paradigm in strategic management, performance is also non trivial part of entrepreneurship research. Wealth creation, which in the case of the firm is driven by firm performance, appears to be central to both entrepreneurship and strategic management Hitt, Ireland, Camp & Sexton, (2001). Recent research illustrate how entrepreneurship and strategic management inform each other and their overlapping interests, such as firm adaptation to environmental change, modes of organizing and exploiting opportunities.

This paper extends the efforts to better clarify the domain of entrepreneurship in two important ways. First, we show how theory (RO in this case) from another area of inquiry can be a very helpful exploration tool for probing and better understanding of entrepreneurship related phenomena. We use RO to show how entrepreneurship generally involves the founders unique awareness of opportunities, the ability to acquire the resources needed to exploit the opportunity, and the organizational ability to recombine homogeneous inputs into heterogeneous outputs. Furthermore, our development of entrepreneurship in RO paves the way for addressing important research questions. For example, one such question might be under what conditions is the firm the most efficient way of exploiting economic opportunities identified by entrepreneurs.

Secondly, by looking at RO through entrepreneurship lens, we have extended the boundaries of and enriched RO. While others have made the connection between entrepreneurship and RO (e.g. Chandler & Hanks, 1994; Brush et al. 2001), we have deliberately set out to develop the entrepreneurship side of RO. In doing so we have shed light on how resources come into existence and how individuals sometimes embody bundles of heterogeneous resources that allow them to repetitiously create new entrepreneurial opportunities through the firm.

Entrepreneurship researchers have sometime pointed towards and hoped for single theory of entrepreneurship. Without a unified theory, it is assumed that the field of entrepreneurship will continue to be disjointed and a melting point for diverse research positions. We do not think that entrepreneurship necessarily needs a single theory because theory is not the end rather the means to an end. The focus of entrepreneurship researchers should be to address interesting and important research questions that better explain and predict currently vague phenomena. If a specific theory, regardless of its field of origin, is a tool that enables us to better probe and explain a phenomenon of interest, then so be it. However, that when using a specific theory from outside the domain of interest, the boundaries frequently got challenged or extended or the theory enriched, all of which can be important contributions. We think that taking an entrepreneurial lens to the RBT as we have done in this paper illustrates this two way contribution.

As a result of taking an entrepreneurial perspective, one contribution to RO is that we now able to identify entrepreneurial resources such as alertness, insight, entrepreneurial knowledge, and ability to coordinate resources, as resource in their own right. Moreover, distinctions have been made between RO and knowledge theories of the firm and dynamic capability theories, a characterization that RO is Ricardian and not Schumpeterian Carpenter et al. (2001). However we argue in this paper these distinctions are artificial, knowledge and dynamic capabilities are an extension of the boundaries of RO. We take a Schumpeterian perspective to RO by suggesting that the act of combining homogeneous and heterogeneous resource is a resource.

**References**


