Opportunity identification exercises as an introduction to entrepreneurship

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ABSTRACT

This article presents a set of exercises that are designed to give students a variety of perspectives on the recognition of entrepreneurial opportunities. In completing the four exercises, students will (a) read and discuss a story presented as an analogy for the search for business ideas and opportunities, (b) list multiple products that all serve one purpose or meet the same need, (c) identify multiple uses for one product, and (d) consider the variety of businesses associated with the existence of a product (e.g., suppliers of inputs and customer businesses). In addition to facilitating a discussion of opportunity recognition, these exercises are also tied to other entrepreneurship topics such as learning from failure, user-driven innovation, and resourcefulness.

Keywords: entrepreneurship, opportunity recognition, opportunity identification, business ideas, value proposition, creativity
INTRODUCTION

Opportunity recognition is an important element in entrepreneurship. Definitions of entrepreneurship are typically framed around opportunity. Shane and Venkataraman (2000: 218) defined the field from a research standpoint as the “examination of how, by whom, and with what effects opportunities to create future goods and services are discovered, evaluated, and exploited.” Authors distinguishing entrepreneurship from the related field of strategic management have explained that a core difference between the two is that entrepreneurship is opportunity-seeking while strategy is characterized as advantage-seeking or focused on the pursuit of a competitive advantage (Ireland, Hitt & Sirmon, 2003). Entrepreneurship requires an opportunity (Shane & Venkataraman, 2000). Yet recognizing opportunities is complex and is one of the factors that can contribute to entrepreneurs failing or, perhaps, never actually beginning the business start-up process at all. Minniti and Nardone (2007), for example, showed that, for women, fear of failure and ability to identify opportunities are two factors that constrain their propensity to start a venture.

Opportunity recognition is dependent on the perspective and abilities of the entrepreneur. Opportunity recognition has been described as an interaction of the individual characteristics of the entrepreneur and the factors existing or emerging in the environment (Shane & Venkataraman, 2000). Pattern recognition will vary among individuals based on each individual’s existing knowledge and how that person “connects the dots” (Baron, 2006). The skills and abilities of opportunity recognition typically have a large component that is tacit knowledge. It may be so tacit that many entrepreneurs attribute the ability to intuition that cannot be taught. Yet cognition research examining how entrepreneurs think demonstrates that instruction can unravel these tacit skills and explain the fundamentals to students of entrepreneurship (Clydesdale, 2012). It is possible that opportunity recognition skills can be honed over time as entrepreneurs gain more experience with the practice. Research does demonstrate that novice and experienced entrepreneurs perform differently (Baron & Ensley, 2006). Novice entrepreneurs in an introductory course can benefit from activities that expand their experience with and perspective on opportunities (Munoz C., Mosey & Binks, 2011).

Taken together, the exercises presented here offer students several useful perspectives on entrepreneurial opportunities. First, these exercises should broaden their thinking about opportunities and, perhaps, make opportunity recognition more exciting and less intimidating. Business opportunities are not necessarily as elusive as many students might think. The exercises prompt them to think about how many products and services they come in contact with daily and the multiple businesses behind each of those. They illustrate that students do not have to start the next Apple or Facebook in order to have a viable opportunity. Second, the exercises show students how they might take activities they enjoy and find business opportunities in them. And third, the class discussion of ideas generated by all students in the class will demonstrate that one student’s knowledge and experience base may lead to a list of different opportunities than other classmates identify. Individually, each exercise has distinct ties to different perspectives on opportunity recognition which will be addressed in the teaching note.

THE EXERCISES

These exercises may be completed in sequence during one class meeting or during different classes throughout the school term. It is possible to complete all four during one 75-
minute class meeting, but the instructor may find that this approach does not allow sufficient
time for discussion of the ideas generated by each exercise, depending on the size of the class.
The exercises can easily be introduced separately at different points during a class term.

Exercise 1

Students should read and the class will discuss the story “What One Can Invent” by Hans Christian Andersen (Hans Christian Andersen Center, 2012b). The main character is an aspiring poet who wants to create impressive poems. In the context of these entrepreneurship exercises, his business is the production of poems. Because he is struggling in achieving his goal, he seeks advice from a wise woman of the village. She demonstrates ways he can change his perspective on the world in order to see the variety of sources of ideas for poems. These suggestions have direct application to aspiring entrepreneurs who are looking to identify business opportunities.

Exercise 2

This exercise is based on the premise that a product offers a value proposition to customers. Generally speaking, each product or service can be described as solving some problem or meeting some need for the customer. The problem may be small. For instance, a binder clip will hold more pages than a paper clip, solving a problem for customers who need to clip more sheets than a paper clip will hold without damaging the papers or deforming the paper clip. This exercise leads the students to think about not just what a product is but what it does. For this exercise, ask the students to list products or services that solve the problem of holding a door open. They should imagine that they need to enter a door with their hands full of packages, for instance. How can they pass through the doorway without using their hands? List products or services that prevent a door from closing when there is a need for it to be held open.

Exercise 3

While Exercise 2 considered what products would solve one problem, Exercise 3 considers what problems one product can solve. Each student or group of students is given a product and asked to list alternate uses for the product other than its primary intended purpose. An interesting twist is added if some of the products have already outlived their original purpose or intended use. For example, what uses are there for a wall calendar from a past year? Students should be prompted to consider aspects such as what the product is made of, what is written on it, how it is shaped, or how it could be modified.

Some products that can be distributed as part of this exercise include:

- A wall calendar from a past year
- Empty soft drink bottle (or a full one)
- Section of a newspaper from a past date (e.g., sports, comics, front page, movie reviews)
- Plastic spatula
- Rubber glove
- Potato chip bag
Exercise 4

For this exercise, students are given a product to examine. The instructor may choose whether they work individually or in groups; however, longer lists of answers tend to come from students working together. Examining their product, students are asked to list all of the businesses that are evident in or suggested by the product. As a quick example, a bottle of nail polish would be evidence of the businesses that produced all of the ingredients including the bottle and its top with the attached brush, the retail store that sold it, the transportation company that delivered the product to the retailer, or even a nail salon that uses the polish in providing its service. There might be special added ingredients such as glitter or a licensing transaction if the bottle has a picture of a Walt Disney princess or a celebrity brand.

Almost any product that is compact enough to be conveniently brought into the classroom will work in this exercise. Examples of products that could be used include:

- Packet of flower or vegetable seeds
- Jar of peanut butter
- Canned vegetables, soup, pasta, etc.
- Music CD or movie DVD
- Earbuds
- Beach towel
- Swimming goggles
- A book (particularly one turned into a movie or musical)
- Automobile maintenance product (e.g., carwash, wax, motor oil)
- Box of facial tissues
- Child’s holiday toy filled with candy
- Skein of yarn with the surrounding paper label

Teaching Note

Exercise 1

This story serves two primary purposes. First, the content of the story is about being observant and open to new ways of looking at situations in order to see opportunities. This perspective is directly relevant to entrepreneurship. Second, because the content does not specifically mention entrepreneurship, it serves as an analogy, getting students to make connections between the story and the behaviors of opportunity recognition in entrepreneurship. Making such connections is a skill that is associated with creative thinking and problem-solving. Authors suggest that there is a positive relationship between the ability to use analogies and a person’s creativity (Seelig, 2012). Additionally, analogical thinking can be a useful tool in helping business decision-makers detect the similarity or relatedness between two businesses or problems (Gavetti, Levinthal & Rivkin, 2005). Understanding the similarity between businesses or problems facilitates problem-solving since what was learned in one situation could be applied in a similar situation. Research regarding relatedness of businesses indicates that entrepreneurs are more likely to be successful with new businesses that are related to what they already know rather than highly distant from what they know (Palich, Cardinal & Miller, 2000). Skill at employing analogies may help entrepreneurs more readily identify the similarity in businesses.
The story begins with the main character lamenting that he will never be a poet because all of the good ideas are already taken. Many students may have similar worries about the available business opportunities if they are having difficulty envisioning a business that might be successful and that they will enjoy. It can be instructive to mention that the author of this folktale, Hans Christian Andersen, lived over 100 years ago (1805 – 1875) (Hans Christian Andersen Center, 2012a). He was describing human behavior he observed then, but that mindset is not uncommon today either. By being aware that many people have a tendency toward this mindset, the students can prepare to overcome this view in their own thinking. To help the poet see that there are countless ideas available, the wise woman he seeks out for advice lends him her eye spectacles and ear trumpet so that he can more accurately perceive sources of fruitful ideas. The lessons presented to him by the objects he observes form the basis for the story.

The first objects he observes are potatoes, who explain to him that people initially did not understand that the edible part of the potato plant grew underground. Some thought that after planting the potatoes, they should wait for the potato trees to grow and pick potatoes off of the branches. This approach proved to be wrong, and after several additional attempts, someone finally found the edible potatoes in the dirt. The potatoes’ story provides an analogy for the trial-and-error process that is often necessary in innovation. Research indicates that learning from failure is important to eventual success with entrepreneurial initiatives (Cope, 2011). An example that can be mentioned here to tie the story to the real world is the story of James Dyson who many students will recognize as the creator of the Dyson vacuum cleaner. His trial-and-error story includes over 5,000 prototypes for his cyclone technology vacuum that he built during a span of 15 years before hitting on a design that worked (Dyson Story, 2012).

The blackthorn bushes illustrate the problem of entrepreneurs being limited in their thinking by their own assumptions. While assumptions can serve us well in allowing us to quickly process information from our environment, assumptions can also lead us to jump to inaccurate conclusions without full information. Many people would make the assumption that berries would not grow under the snow and ice, but the blackthorn berries were found there. A modern-day example in the realm of entrepreneurship and innovation can be found in Ken’s Foods. One might assume that the most promising, high-potential product at a popular steakhouse would be its steaks or, perhaps, its steak sauce. However, it was the salad dressing that turned out to be a big opportunity for Ken’s Foods (Ken’s Foods, 2012). The salad dressing was so popular that some customers would order two salads just to get more salad dressing. Ken’s now sells a variety of products in the category of dressing, sauces, and marinades throughout the United States and on-line. Ken’s would have missed this opportunity if they had let their thinking be limited by assumptions about steaks and steak sauce. As aspiring entrepreneurs, students should be cautioned to beware of their own assumptions and how they can limit their openness to ideas. Be on the lookout for the unexpected.

Closer observation of a hive of bees demonstrated that, instead of one constant droning sound, the bees were actually telling individual stories. The aspiring poet realized that the same was true of the townspeople when he turned his attention to a view of them in the distance. The individual stories provide a richness of detail in which there are many new ideas. The analogous perspective in entrepreneurship is the usefulness of listening to the details about how consumers use a product, how they wish it worked, what they need it to do, and what other unmet needs they have – their stories. Further, an entrepreneur can learn how to communicate about the features of a new product in a vocabulary that will be relevant to the consumers. An
entrepreneur who looks at the market as one whole may miss differentiation opportunities and niches that can support profitable businesses.

After exploring all of these elements, the aspiring poet still cannot see how he will find ideas. At this point, the wise woman advises him to give up on his thoughts of becoming a poet because he has no imagination. She suggests that he turn his efforts, instead, to being a poetry critic so that he will have an income and not starve. Entrepreneurs, too, face criticism, often from people who cannot appreciate the entrepreneurs’ vision and are not bearing the risk and pressures of developing a business. Aspiring entrepreneurs should be prepared to receive criticism, evaluate its merits, and ignore naysayers if their arguments are misguided. This part of the story opens up the discussion to how an entrepreneur can deal with criticism. If the skeptics are among the sources the entrepreneur is turning to for financing, for example, the entrepreneur can make a stronger case for the business’ potential with a strong, well-researched business plan.

Exercise 2

In responding to the doorstop exercise, some students will be quite limited in their thinking. They will answer “anything heavy enough to prop in front of the door” and end their list there. However, as the entire class works together answering this question and the responses are called out and written on the board, the students who were thinking narrowly begin to see how varied the answers can be. A typical list that emerges through this discussion includes the following:

1. Object in front of a door, heavy enough to prevent door from closing
2. Object wedged under the door
3. A kick-prop attached to the bottom of the door (holds the door open when the prop is lowered)
4. Hook attached to the wall that holds the door from behind
5. Magnet attached to the wall that holds the door from behind
6. Locking mechanism on an arm above the door (the arm attached to the door and the wall that slows the door as it shuts)
7. Button on the wall that is pushed to open the door (often designed for handicapped access)
8. Pressure plate or sensor that opens the door when you step on it as you approach
9. Revolving door
10. A doorman

This list includes low-tech alternatives as well as products that require a higher level of technology. The list also includes a service (i.e., the doorman) in addition to the products. The variety of product ideas that have been developed in the category of doorstops can be further illustrated with a quick Internet search. A search for “doorstops” at Amazon.com returns a wide selection ranging in price from below $10 to $40 or more. The designs are creative, such as wedges shaped and colored like fall leaves that blew under the door or the feet of the wicked witch of the East as if they are sticking out from under the house dropped by the cyclone in “The Wizard of Oz” (Amazon, 2012; Google Shopping, 2012). All of these products solve essentially the same problem. The assortment demonstrates to students that simple ideas with a basic value proposition can be the basis for viable businesses.

This exercise can be used to call students’ attention to the phenomenon of user-driven innovation. User-driven innovation occurs when people who use a product modify the product to better serve their purpose. Other users with the same need may make similar modifications
after witnessing the success or improved functionality of the modified product. In the final stage of the process, an entrepreneur notices the modification and begins to manufacture that modified product on a large scale so that the product now more accurately matches its use. Research has highlighted examples of lead users of software and technology or examples in sports when a participant modifies some equipment and then proves the modification to be useful by improving performance or winning a competition. Other users take note, and the modification becomes mainstream and is commercialized (Hienerth, 2006; Kaiser & Muller-Seitz, 2008). The music industry provided a recognizable example in the user-driven development of the turntable as a musical instrument in hip-hop music and its subsequent impact on digital players, an example demonstrating the importance of considering not just the physical form of an object but also changes in their intended use or function (Faulkner & Runde, 2009). In short, customers will find a product to solve a problem, but even the best product available may be a sub-optimal solution for the particular problem. Understanding how customers use products can reveal opportunities to refine the product for improved performance and better meet the true need. If an entrepreneur identifies a need and is unable to list any products or services that are marketed for that purpose, the business opportunity can be built around meeting the unmet need. Entrepreneurial opportunities are found when unmet needs are identified.

**Exercise 3**

Before giving the specific directions for this exercise, the instructor may wish to illustrate the nature of the assignment. There are some pop culture entertainment examples that can be used quite effectively to spark interest. A television character with a reputation for using products in unconventional ways to escape from tight scrapes is MacGyver. The opening gambit for one episode shows him retrieving a map of strategic significance but, then, using the map in five different ways, including rolled into a tube as a pea-shooter and duct-taped over a hole in the hot air balloon he was using to make his escape. Available on YouTube.com as a posting labeled “MacGyver: How to Use a Map”, this video clip helps the students think about how a product can be used in different ways based on how it is shaped or what it is made of (YouTube, 2012b). A more recent show on television that demonstrates these same skills in taking the things at hand and turning them to alternate uses is “Burn Notice”. In Season 3, Episode 3, for instance, Michael uses a potato chip can to make a “cantenna”, or a makeshift antenna for transmitting data he has hacked from a target’s computer (TV Fanatic, 2012).

Students who have seen the movie “Apollo 13” may recall the segment during which the scientists observing from Houston had to figure out how the astronauts aboard the space craft could fix a problem on board. Because their tools and resources were, of course, limited to those available on board, they had to determine how the available materials could be repurposed (YouTube, 2012a). This scene from the movie is available on YouTube in a clip posted under the title “Let’s Build a Filter.” A comedy version of efforts to devise a solution to a problem that astronauts will have to implement using only the items they already have with them may be familiar to students who watch the television show “The Big Bang Theory.” After the “space toilet” that was designed by Howard has been deployed on the International Space Station, Howard realizes that a flaw in the design will cause it to fail after only ten flushes. Howard enlists the assistance of his friends to develop a fix that could be implemented by the astronauts to repair the Wolowitz zero-gravity human waste disposal system (Big Bang Theory, 2012).
Some example responses from a student group that is assigned an empty soft drink bottle to examine could include refill it with another drink, use it as a bank holding loose change, fill it with sand and use as a weight, cut off the bottom and use it as a funnel or a scoop, cut a hole in it and use as a birdhouse, or recycle it. A real-world company that repurposes products after they have outlived their initial intended purpose is TerraCycle (TerraCycle, 2012). TerraCycle “upcycles” products such as empty snack bags and turns them into products such as tote bags.

One skill this exercise taps into is envisioning different outcomes. There is an assumed, intended purpose for the product. Once the product has been used for that purpose, the outcome has been realized. But what if the product was applied to uses for which it was not originally intended – what might those uses be? What if the student could write an “alternate ending” for this product? The role of imagination and the ability to envision different futures is useful for entrepreneurs who are trying to build something (i.e., the new business) where nothing currently exists. Research has found the ability to pretend or imagine to be linked to counterfactual thinking, or thinking about different possibilities (Gopnik, 2012).

In addition to serving as practice in creative thinking, this exercise can also be used as a lead-in to the topic of resourcefulness in entrepreneurship. Resourcefulness or bricolage involves making something using only limited resources. Many entrepreneurs start small with limited access to resources, including cash necessary to buy additional resources. Entrepreneurs and small business managers often face resource constraints and have to be creative in addressing problems or tackling opportunities. Research about resourcefulness or bricolage demonstrates that firms with limited resources are able to create unique solutions by recombining elements at hand for new purposes (Baker & Nelson, 2005). Entrepreneurship is frequently defined in terms of resources and the creative application of resources – such as assembling unique combinations of resources or pursuing an opportunity without regard to resources (Stevenson & Jarillo, 1990) or “new ways of looking at old problems” (Brazeal & Herbert, 1999: 34). By considering alternate uses for products, students gain insight into the approach of turning a product to another use. To do so, they need to consider not just the specific product, but what it can do and what elements it contains.

**Exercise 4**

The description of this exercise gave a quick example using a bottle of nail polish. It can also be helpful to begin this exercise with a more detailed example. Alternatively, the instructor could make the assignment using a brief example, give the students time to work, call everyone’s attention back to a more detailed example, and then allow the students to return to work and expand on their initial list of answers.

An example that works well is a box of single-serving packages of oatmeal, such as the Quaker brand. The demonstration can begin with an oatmeal package and then include the box that contains the packages. The oats contained in the single-serve packages suggest the agriculture industry and manufacturers of all of the machinery and tools use to grow and harvest oats. There is also machinery needed to process the oatmeal and the added ingredients and flavoring. Some packages contained dried fruit or cinnamon flavoring, for example. The single-serve packages are made of a coated paper, suggesting the paper industry, and the business that manufactures the ink used in printing directions on the package. Turning the class’s attention to the box that holds the single-serve packages, the instructor can breakdown (i.e., disassemble) the box to show students that each box is constructed of one piece of cardboard. There are engineers...
who have designed machinery to cut and fold the box. There is ink needed for all of the printing on the box. Students can be directed to read the box to determine what is contained in the product – all inputs bought from many different suppliers. If the box is made of any recycled content or if it is recyclable itself, there is the recycling industry connected to this product. The product is sold in a store – a different business from the one that manufactured the product – and it had to be transported to the store in which it is sold, suggesting a variety of transportation possibilities for the inputs and the finished product.

The students should then be asked to read the list of businesses they determined were related to or suggested by their product. Many points about business opportunities and the building of businesses can emerge from a discussion following this exercise. First, for example, most of the lists will be quite long, including many suppliers. All of these suppliers were paid for some element necessary to get the product to market. Yet the prices of most of the products will be relatively low, some less than a dollar or two. This observation lends itself to a discussion of economies of scale and to the quantity of customers needed to support a business. The products the students will have examined during the exercise are not sold under long-term contracts. So, the necessity of winning repeat customers can be discussed.

Second, students can see that, as they are planning their businesses, there are many things that they will need as inputs. And there are businesses that exist to provide these inputs. These lists of businesses may lead to discussion of the power of suppliers and power of buyers. If an entrepreneur needs an input modified, will suppliers be receptive to the request? If the supplier is not entrepreneurially-minded, the entrepreneur may have to develop the needed new input rather than purchase it. This exercise helps to illustrate the inter-relatedness of businesses.

A third topic for class discussion prompted by this exercise can revolve around the variety of businesses that might be potential customers for any businesses the students plan to start. An entrepreneur may be able to sell a product to a wide variety of businesses as an input into their production. Students may be more familiar with products they buy as end-users. So, this exercise gives insight into business-to-business opportunities.

References


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