

Title of the Paper: A Resource-Based View on Circular Entrepreneurship: Case Study on Three Largest Manufacturing Companies in Emerging Economy (Bangladesh).

Author:

Mohammad Shahab Uddin

Ph.D. Fellow, Essex Business School,

University of Essex, UK.

Associate Professor,

University of Chittagong

Bangladesh.

Email: mu20217@essex.ac.uk

Co-Author:

Dr Mohammed Shamsul Karim

Senior Lecturer, Essex Business School

University of Essex

mskarim@essex.ac.uk

A Resource-Based View on Circular Entrepreneurship: Case Study on Three Largest Manufacturing Companies in Emerging Economy (Bangladesh).

Abstract: The study looks into resource-based view (RBV) in transforming circular economy (CE) through circular entrepreneurship (CEps) for gaining sustained competitive advantage. Empirical study on CEps in the lens of RBV is relatively new in the context of an emerging economy like Bangladesh. For minimizing this gap, the study adopted a case study method and interviewed managers and entrepreneurs of three largest manufacturing companies of Bangladesh to investigate their current CE practices under RBV and CE principles. The study finds; (a) entrepreneurs and managers recognize the resource heterogeneity under CE and perceived the need of required technology (b) almost all the top-level executives said that CEps can bring sustained competitive advantage (c) the concept of CE is considered similar to sustainable development and corporate social responsibility (CSR), hence it is opined that they are doing this in their organization (d) competitive market forces for CE is not yet developed as the practices of CE principles is not popular in Bangladesh. The study also provides policy implications and future research directions.

Introduction:

Surmounting environmental degradation with countervailing mechanisms is difficult. However, Circular entrepreneurs (CEs) can help to minimize environmental dilapidation by adopting CE principles (e.g., reducing and reusing of natural resources, recycling and remanufacturing products and services). Hence, the main purpose of the study is to look into circular entrepreneurship (CEps) in the developing country perspective in the lens of resource based-based view (RBV). Entrepreneurs and managers act as key drivers of change (Zahra et al., 2006). Similarly, they are the main ingredients to transforming a linear economy into a circular economy (CE) by adopting new resource capabilities and reconfiguring firm's resources (Zahra et al., 2006). CE poses a lot of challenges and generates business and economic opportunities for entrepreneurs and also brings benefits for social and environmental issues (Stahel, 2019; Ellen MacArthur Foundation, 2015). Circular entrepreneurs (CEs) must grasp these opportunities while facing the challenges and determine the appropriate strategies to transform their organization into a circular organization. To transform organization into a circular organization for achieving competitive advantages, it is important that resources have some specific characteristics which resource-based view (RBV)

explains. RBV is a rigorous theory that explains firm's performance in the context of resources they own and control (Kristoffersen et al., 2021). RBV explains that for getting competitive advantage, resources must possess characteristics such as valuable, rare, inimitable, and non-substitutable (VRIN) (Kristoffersen et al., 2021). RBV also proposes that to gain competitive and sustain in the long run, organizations accumulated resources that harder to imitate or substitute (Chaudhuri et al., 2022).

Although the literature links entrepreneurship with sustainable development (Staicu, 2021; Zhu et al., 2019), sustainable entrepreneurship with education (Vecchio & Secundo, 2021), transforming society with circular entrepreneurship (Ili, 2022), however, research linking circular economy and entrepreneurship in the context of RBV of developing country like Bangladesh is missing. So for the research and literature reviews, the studies in this area yet to explore specially, in Bangladesh context. The present research also focuses on how circular economy bring entrepreneurial opportunities in the manufacturing organizations, how manufacturing organizations acquire necessary resources for adopting CE in Bangladesh, and how CEs help in this process?. In doing so, researchers took a case study approach to look into the issue in depth. Infiltrating CEs in manufacturing industries is relevant because it facilitates to the investigation into new entrepreneurial opportunities and researchers can see how entrepreneurs are reacting and gaining competitive advantage from CE through a clear strategic resource-based lens.

However, the present trend of CEs related literature displays some shortcomings. **For example**, most of the literature on CEs is surrounded with the new business model or circular business model (Guldmann & Huulgaard, 2020; Zhu et al., 2019; Crecente et al., 2021; Veleva & Bodkin, 2018; Flygansvør et al., 2019; Rodrigues & Franco, 2020; Tetsman, 2017; Despeisse, 2017). Hence, idiosyncratic characteristics of CEs and related entrepreneurial studies are lacking in the current literature. Even though some literatures focus on new business creation or circular startup (Vogt Duberg et al., 2020; De Angelis, 2018; Lauten-Weiss & Ramesohl, 2021; Greer et al., 2020; Zhou & Park, 2021), but these research failed to provide any strategic lens to manufacturing companies to show a clear direction to transition from linear to circular economy. Although RBV has adopted in different business and management literature but bringing with them in CE perspectives and integrating with entrepreneurial endeavor is still missing to a large extent. Hence, none of these research focus the relevance of RBV with CEs and how the CEs can get distinctive

capabilities with empirical evidence. This is the **core** contribution of this paper by showing empirical evidence, how CEs can get unique resources through RBV.

The present paper has significant contribution in the literature of CEs and entrepreneurship field. **First** of all, the literature relating to CEs are diverse and sporadic in different disciplines and fail to integrate RBV with CEs. So, in this paper, researchers integrated the concept of CEs with RBV and look into how CEs facilitates the **acquiring** of new resources that are rare, valuable, not-imitable within CE domain. Moreover, the RBV is rarely applied in the current literature of circular entrepreneurship and fail to captures its importance in CE. This research fills these gaps and provides an integrated model that shows a clear transformation of gaining competitive advantage through CEs by using the RBV.

Secondly, as we know that an entrepreneurial firm needs to change and reconfigure their current processes and assets based for achieving organizational goals, so CEs need to know how they can **achieve resources** considering environmental effects and global climate change. The present paper is an endeavor to show that CEs can **acquire** circular opportunities by empirically looking at the different dimensions of resources.

Thirdly, as the CE originated for a transformative economy that redesign our production and consumption system by ensuring resource efficiency and sustainable development, so CEs needs to **transform** the current entrepreneurial resources that posses VRIN and created by the CE. The previous researches are lacking to identify the transformation process and the factors that impede the transformation from RBV. This research also fills this gap and provide a road map of transformation process in the lens of RBV. This will add a significant contribution in the literature of CE and CEs.

Finally, most literature on CEs and related fields are conceptual and descriptive in nature (Cao, 2011). So, more qualitative and in-depth research and company case studies will add theoretical foundation with the existing body of knowledge. This empirical research on CEs using the lens of RBV also fills up this gap. The paper has organized as follows: the second section provides theoretical background, third section provides methodology, fourth section provides comprehensive qualitative data presentation, fifth section provides discussion based on empirical case studies and the final section provides policy implications, future research directions and conclusion.

Theoretical Background/ Literature Review:

The research on CE is growing exponentially and interest on CEps is also growing among academia although it is still in infancy (Kirchherr et al., 2017). Kirchherr et al. (2017) provided a comprehensive definition of CE analyzing 114 definitions which is ““A CE describes an economic system that is based on business models which replace the ‘end-of-life’ concept with reducing, alternatively reusing, and recycling [...] materials in production/distribution and consumption processes, [...], with the aim to accomplish sustainable development, which implies creating environmental quality, economic prosperity and social equity, to the benefit of current and future generations”. (Kristoffersen et al., 2021). This definition clearly shows some new opportunities for entrepreneurs that created by CE. Hence, CE brings new opportunities for entrepreneurs and organizations are now thinking their production process in the context of CE principles. When entrepreneurs move to a new transition, a theoretical lens helps to understand this transition and in this case the lens of resource based theory plays an important role.

RBV is a rigorous theory that investigates resource characteristics for getting competitive advantage (Kristoffersen et al., 2021). RBV is a combination of tangible and intangible resources that bring competitive advantages for firm (Kristoffersen et al., 2021). When companies integrate resources in such a way, that harder to substitute and companies use these resources for gaining competitive advantage (Chaudhuri et al., 2022). According to Teece et al. (1997), resources are firm-specific assets and these can be tangible (i.e., infrastructure) or intangible (i.e., know-how) and are difficult to imitate. Not all resources are valuable for firms specially, when these resources fail to improve efficiency and effectiveness and fail to apply as strategic resources, then these resources are not valuable for the firm (Chaudhuri et al., 2022). Resources can be imitated from other firms and generate competitive advantage or firms can acquire other resources that is valuable and can be used as strategic substitutes (Chaudhuri et al., 2022). However, easily substitutable resources cannot generate competitive advantages. Besides resources, firms need to build its capabilities and capabilities can be created when resources are integrated through development and learning of the employees (Chaudhuri et al., 2022). Some resources are dynamic in nature, such as knowledge and human capital. Firms can create, modify, and extend these resource base with strategic partnership (Teece, 2000).

Entrepreneurial actions in case of RBV promotes the alternative use of resources (Alvarez & Barney, 2002) which is significant for moving towards CE. For achieving sustainable competitive advantage, entrepreneurial actions create new resources, or they combine

existing resources in a new way that help wealth creation (Ireland et al., 2001). While applying RBV in entrepreneurship study, according to Alvarez & Barney (2002), it shifts the focus from opportunity recognition to emphasis on the entrepreneurial firm that transforms inputs (homogeneous) to heterogeneous outputs. Barney (1986) argued that these diverse outputs can become wealth for the firms. Resource heterogeneity is the core of RBV theory.

There are four conditions in RBV for entrepreneurial returns such as resource heterogeneity, ex post limits to competition, imperfect factor mobility, and ex ante limits to competition (Peteraf, 1993).

Resource Heterogeneity: This is the basic and most important condition for RBV and it refers that resource combinations and capabilities are heterogeneous among firms to be competitive in the market (Barney, 1991, Alvarez & Barney, 2002). Although heterogeneity is an important conditions for sustained competitive advantage but not enough for a firm, and firms need other conditions to be competitive (Alvarez & Barney, 2002). There would be entrepreneurial opportunities when different actors create value of resources and entrepreneurial rent would exit if these resources are appropriate, and if these resources are not appropriate then entrepreneurial loss would in place (Alvarez & Barney, 2002). The fundamental question of this resource heterogeneity comes from entrepreneurial process. Alvarez & Barney (2002), suggest that inputs become heterogeneous output because of some factors such as cognition, alertness, understanding market opportunities, and coordinated knowledge.

Cognition: It indicates entrepreneurial mind set and strategic thinking for decision making that represent a source of competitive advantage (Alvarez & Barney, 2002). In CE, CEps have different mind-set than the traditional entrepreneurs as they explore and exploit the opportunities in CE domain (Zucchella & Urban, 2019).

Entrepreneurial Alertness: It is the ability of an entrepreneur to see the opportunities in products or services that are valuable to consumers or find a new methods of production that maybe unknown to others (Alvarez & Barney, 2002). CE brings these opportunities for entrepreneurs and those who are alert can adopt CE with new technical methods in production. CEps are those who possess these characteristics.

Market Opportunities:

CE bring huge market opportunities and Alvarez & Barney (2002) suggest that circular entrepreneurs should move beyond markets because markets may not create wealth always, rather through market process entrepreneur can gather market knowledge and this knowledge can help to identify the opportunities. Entrepreneurs can test their market knowledge through firms that can produce heterogeneous outputs for customer (Alvarez & Barney, 2002).

Coordinated Knowledge and the Firm:

Generally, knowledge includes information, skills, technology, know-how and it can either tacit such as personal or difficult to identify or it can be explicit such as technology (Alvarez & Barney, 2002). To secure best use of knowledge, it must be coordinated. It is not the market that coordinate knowledge rather it is entrepreneurs that integrate knowledge and firm integrate specialized knowledge for being competitive in the market (Alvarez & Barney, 2002). One of the dimensions of knowledge is the breadth of knowledge that indicates the ability to recognize how to exploit specialized knowledge and create wealth (Alvarez & Barney, 2002). To create wealth both specialized knowledge and breadth of knowledge necessary that a firm can integrate (Alvarez & Barney, 2002). In CE, CEs integrate both tacit and explicit knowledge to exploit the opportunities.

Ex Post Limits to Competition: This refers that a firm's competitive position depends on the forces that limits competition in the market (Peteraf, 1993; Alvarez & Barney, 2002). In other words, the heterogeneity must be preserved in the market to be competitive. Firms can preserve heterogeneity and limit competition by creating uncertainty in the market and restrict imitation in the market (Alvarez & Barney, 2002). In this context, CEs can restrict the competition by developing new technology.

Ex Ante Limits to Competition: This refers that for enjoying sustainable competitive advantage, the competition must be limited (Alvarez & Barney, 2002). In other words, there must be ex ante limits to competition for sustainable competitive advantage (Alvarez & Barney, 2002). Firm's can enjoy this if the firm has resources that are costly, difficult to imitate and ambiguous to competitors.

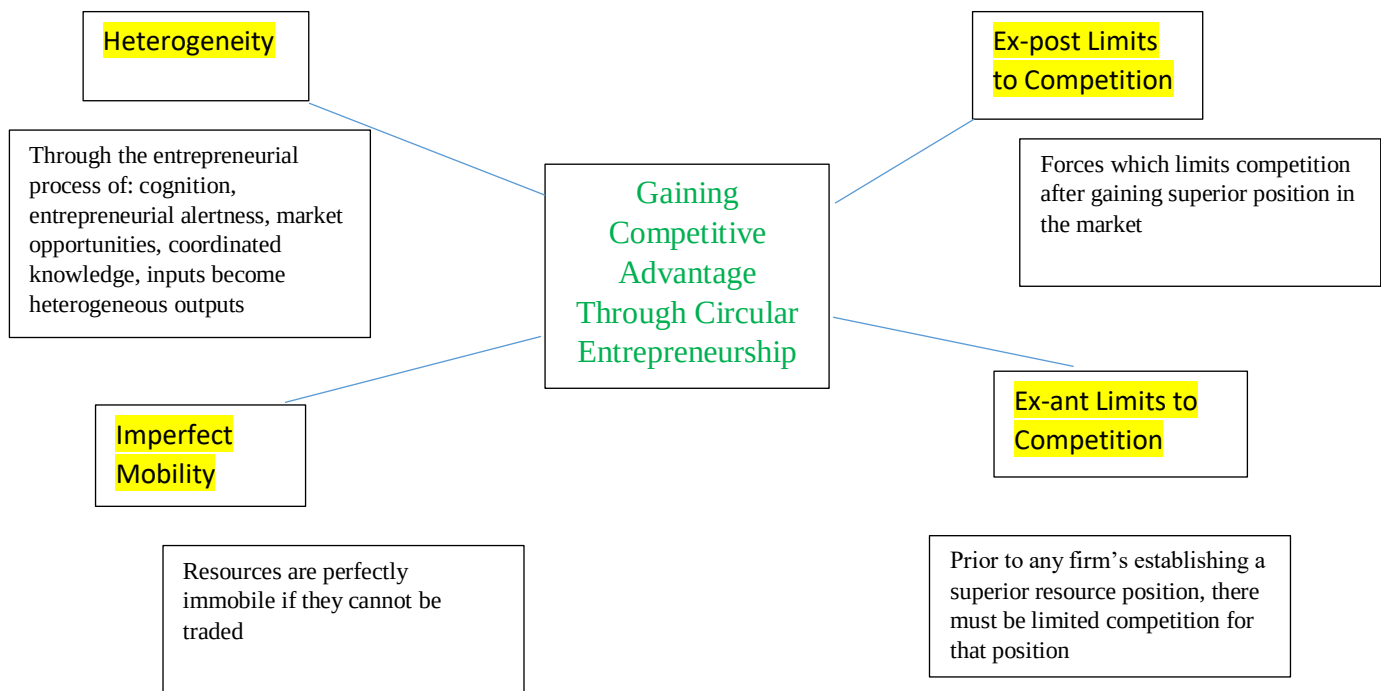


Figure: Adopted from Peteraf's Model (1993)- Entrepreneurial Firm

Based on the theoretical background, the researchers proposed the following proposition and test these proposition based on the case studies presented in the discussion part of the research.

Proposition 1. Based on the theories of entrepreneurship and CE, CEps need to produce heterogeneous resources to be competitive in CE.

Proposition 2. CE brings resource immobility and CEps can get this opportunity

Proposition 3. In CE, CEps can limit the competition and can get superior position in the market by gaining technological superiority

Proposition 4. Companies can limit competition prior to establishing a superior resource position.

However, CE promotes the growth of CEps and many business owners are becoming circular entrepreneurs now a days by adopting RBV. CEps are also those who adopt CE

principles in their productions and consumptions. CEps is also termed as the ‘exploitation and exploration of opportunities in the domain of CE.’ (Zucchella & Urban, 2019). Circular entrepreneurs (CEprs) need circular resources (CR) to be competitive in the market and hence need to understand RBV. To identify the CR, the researchers used resource based view which is prominently used for characterizing resources based on specific features.

Resource base in CE is different than linear economy. For example, in CE business model waste is used as resources (Centobelli et al., 2020), and also firms need products and resources that reusable and recyclable (Chaudhuri et al., 2022). In CE resource base, such as design thinking and creativity are also critical for developing new resources, products and services (Chaudhuri et al., 2022). CE resources and capabilities also include green and circular products and services, ability to recruit knowledgeable employees with skills in environmental issues, create strategic alliances with partners, perform circular supply chain operations, develop green marketing and find market niche to sell green products (Prieto-Sandoval et al., 2019). Capabilities also integrate skills and processes such as technical or managerial ability, or processes, such as systems development **by (Wade & Hulland, 2004).**

In this new circular reality, if a firm can make resources that are difficult for other organization to copy (Bag et al., 2021), then firm can ensure competitive advantages. There are resources that are complex in nature and difficult to imitate, such as some technical knowledge that gained and accumulated after long practices. This knowledge and skills can work as a strategic tools to gain competitive advantages. Similarly, workforce skills are also considered as tacit resources because these resources are not easy to imitate and not visible and these can only achieve through continuous practice and learning (Hart, 1995). Technical skills like artificial intelligence, big data analytics and other fast changing technical skills are considered as tacit resources and these knowledge requires skills in data analysis and programming. Blending these technical skills with CE firm can gain competitive advantages.

However, firms need eco-innovation that sought for the development of ecological products and used renewable and sustainable resources that improve environmental sustainability (Portillo-tarragona et al., 2018). Eco-innovation that generates and ensures competitive advantage also help to achieve environmental and economic efficiency (Portillo-tarragona et al., 2018). Researchers also use RBV while analyzing eco-innovation and measure capabilities that complement each other (Portillo-tarragona et al., 2018). For instance, human resources, innovative knowledge, and intellectual capitals are considered

vital resources for eco-innovation (Portillo-tarragona et al., 2018). However, in addition to those vital resources other important resources that are important in CEps are; environmental leadership, management attitude towards environment, corporate social responsibility (Portillo-tarragona et al., 2018). Eco-innovation and CE need organizational capabilities that can be defined as “unique integration of organizational processes that collate strategic knowledge and lead to better firm performance” (Portillo-tarragona et al., 2018). Although RBV theory has some criticisms regarding empirical testing and distinguishing resources and capabilities, however, an empirical study on this theory could minimize this complexities in CEps perspectives (Portillo-tarragona et al., 2018). CEps is a dynamic concept that requires resource dynamics for gaining competitive advantage through creation, selection, retention, replication, propagation of resources, by imitation, transfer, substitutions of resources considering R-strategies (reduce, recycle, reuse, refurbish, remanufacturing and so on.) (Mathews, 2002).

Methodology: The paper follows case study approach (Yin, 2003) based on 3 cases in a fast developing and emerging economy, Bangladesh. For the cases, researchers choose the most leading and the largest fast moving consumer goods (FMCG) manufacturer of Bangladesh. These are the multi-billion dollars companies (in terms of sales volume), represents the largest business conglomerates of the country with diverse products and services.

Why Bangladesh as a Study area?: This research is funded by the Commonwealth Scholarship Commission (CSC) and the study area is Bangladesh as Bangladesh is one of the Commonwealth listed countries. The lead researcher is a commonwealth doctoral scholar and hence choose to study Bangladesh, as the economy of Bangladesh is emerging and fast growing. Bangladesh is a small country in South Asian region and according to the World Bank it is only 1, 47,570 square kilometers of surface land (World Bank, 2023) and these companies are the leading in the country. These cases are selected to see the transition to CE within emerging economy and to track the progress that is made by companies in CE (Vaiman et al., 2012). This method is very popular and strong method in management literature (Mishra et al., 2019) and the researchers choose qualitative method because the concept of CE is relatively new in the context of Bangladesh. Unlike, one case analysis (Mishra et al., 2019 and others), researchers followed multi-case analysis in developing country context. Moreover, this method will help companies to understand the CE and CEps in the similar industry and their resources' scarcity to transition to CE (Mishra et al., 2019).

Researchers also follow rigorous method and strategy in data collection steps and validation based on Sehnem et al. (2022) as follows:

1. First of all, researchers use their networks to reach entrepreneurs and top level executives. Researchers also use professional networks such as Chambers and Commerce, Bangladesh Association of Publicly Listed Companies, Bangladesh Federation of Human Resource Managers, Stock Exchange and other professionals and industrial networks.
2. Before data collection a semi-structure questionnaire has been developed based on the literature on CEps and CE
3. The data collection period was from October 20, 2022 to December 20, 2023.
4. In this period, lead researcher visited factories in Bangladesh for data collection
5. Initially, researchers selected big conglomerates of the country because they have diverse products and services and they use sophisticated production process. A formal letter was sent to all targeted respondents.
6. After getting permission, questionnaires have been sent through email to the targeted respondent before physical visit.
7. Lead researcher visited the factories in-person while collecting the data
8. A specific and convenient time and place selected for face-to-face interviews.
9. Both audio and video interview were taken for documentation purposes
10. Interviews were transcribe carefully and recorded in word files for further process and coding.
11. Interview data transcription checked manually by the researchers for quality purposes.
12. For triangulations, online data, sustainability reports and other documents were also collected.
13. For external validity, i.e., to generalization of the results, additional and complementary data were collected to strengthen the empirical study.
14. For internal validity, we sought additional information and reports from the interviewee. Data were cross-checked during the study.
15. For reliability, researcher used a popular protocol provided by Tranfield et al., (2003).
16. For the current study, we took three large companies as our units of analysis.

Please see Table 1 for research protocol.

Table 1. Research Protocol

Research Objective	To investigate the CE and CEps in the context of emerging economy in the lens of RBV, and to look into resource constraints for transition to CE
Research Question	How can CEps help the manufacturing companies to transition to CE with the consideration of RBV and gain sustained competitive advantage?
Theoretical basis that based the interview script	Resource based view (RBV) and Circular Economy (CE) and Circular Entrepreneurship (CEps).
Case selection	Case Criteria: Manufacturing companies, diverse products and services, have some sorts of practices of CE (reuse, recycle, reduce etc.)
Data collection	Develop of semi-structured interview questionnaire, and conduct qualitative interview. Collect data from websites, and other sources. Data also collected from organizational reports.
Data analysis	Data coded, and decoded, identified relevant variables for analysis from interview data, checking cross-case analysis (triangulation).
Data mapped on webpage and technical reports	Characterization of manufacturing organization, identify circularity, resources, resource management, technology used
Researchers responsible for planning the research and conducting all stages	Doctoral student (lead researcher), two professors from the Business School.

Researchers collected additional data after interview through emails. Data collected through face-to-face coded and different variables identified manually in this process. Empirical findings checked with secondary sources and compared with existing theory of RBV.

Respondents Profiles:

The respondents are entrepreneur, and top level executives. For Pran-RFL, researcher got the opportunity to take qualitative interview from entrepreneur and head of the finance who gave her consent to reveal her company's name in the research. Other two companies, researchers talked to director of human resource for company A and talked to director of marketing for company B.

Data Presentation and Analysis:

The Company Profiles: In the following, the study provided company profiles. Only one entrepreneur agreed and provided consent to reveal the company name but other companies didn't allow to mention the name of the company in the study. Hence, we use ABC for keeping anonymity of the company's name where it is applicable.

Name of the Company	Year of Establishment	Nature of the Company	Number of Employees	Volume of Sales (\$)	Business Units and products and services
A	1972	Fully privately owned and managed by family	10,000	3 Billions (Approx.)	Fast Moving Consumer Goods (FMCG) Mastered Oil, Products: Flower, Sugar, Mineral water, Soya bean oil, edible oil, palm oil, rice, salt, Media
Pran-RFL	1980	Fully privately owned and managed by family	1,50,000	2.8 Billions	Fast Moving Consumer Goods (FMCG). The Company is

					working in diversified sectors including food, plastic, agriculture, light engineering, electronics, and electricals
B	1950	Publicly listed big conglomerate	30,000	1.8 Billions	Jute Mills, glass factory, Paint, foil paper, tea gardens Polymer, tools, Fly-woods, Particle Board, Tableware, Sanitary ware, Ceramics.

Although, the concepts of CE and CEps are relatively new in the context of Bangladesh, but all the studied companies are practicing the principles of CE to some extent. After knowing the concept clearly in the interview process, almost every respondent agreed that CE will reduce the costs, increase productivity, promote efficiency, and reduce wastage. Companies and entrepreneurs heard about sustainability issues and corporate social responsibility (CSR) and these companies are trying to comply with those issues. However, CE is not yet popular concept in Bangladesh and most of respondents mix CE concept with sustainability and CSR. Companies comply with the only legal requirements and reports to the authority only

essential things. When researchers talk for resource commitment for CE, the respondents find that technology is the main determinant in that case. Table 3, provides some summary of the interview and summary of the secondary data.

Table 3.

Company	Secondary Data	Interview
Pran-RFL	RFL prioritizes environmental sustainability were we think green and work green. Our motto is to achieve a Sustainable Green Planet someday. To protect and conserve this beautiful mother earth we are taking few green initiatives into account. 1. Energy Conservation and preservation 2. ETP 3. The 3R's (Reduce, Reuse &Recycle) 4. Tree plantation Furthermore, we have also generated three Effluent Treatment Plants (ETP) to ensure safe factory. Wastage disposal, community forestation program to balance out carbon dioxide amount in the air, heat recovery boiler for efficient reuse of the heat from production and we've also switched to fossil fuel and powered trucks to reduce air pollution. Additionally, we utilize daylight with sky-light roof and CFL Bulbs at all our offices and factories to reduce power consumption RFL's CSR activities is based upon 4 pillars, Healthcare, Education, Community Development and	"...Actually our motivation comes from the cost impact of garbage. We are trying to throw the garbage and it takes money. Sometimes the local people ask for the garbage from us...." "...we started with working with the ETPs. Circular economy meaning having ETP in the plant. Because we need to recycle the water..." "...So the cost is the most important thing and we want government organizations to start working on these types of things...." "...If my competitors are doing it, they must be having some benefits out of it. Some MNCs practice it. If I compare, I am not in the MNC stage yet. So realistically the entrepreneurs of our country are fire fighting about many different issues..." "...Competitors, external, stakeholder don't play any role in this kind of thought process...." "...So the green buildings have some reputations but they aren't adequately getting the return that they should be getting. Environmentally these buildings are adding value to my economy..."

	Environment. We strongly ensure our activities are sustainable and benefits the community for the foreseeable future.	
A	We are committed to providing quality products in a manner that ensures a safe and healthy workplace for our employees and minimizes the potential impact on the environment. We are operating in compliance with all relevant environmental legislation and we strive to use pollution prevention and environmental best practices in all we do. Our Policy therefore, is to: 1. Integrate the consideration of environmental concerns and impacts into our decision making and activities. 2. Minimize the waste and then reuse or recycle as much of it as is possible. 3. Minimize energy and water use within our buildings and processes in order to conserve supplies and minimize the consumption of natural resources. 4. As far as is possible, purchase products and services that do the least damage to the environment. 5. Train, educate and inform our employees about environmental issues that may affect their work,	Motivation...“ As government, by seeing these, entrepreneurial incentive, to incentivize these government has sanction us 3 special economic zone....” “..we have separate R&D department under each and every manufacturing plant..” “...in terms of technology, it requires huge investment. One of our vision is to become a sustainable global conglomerate, in meeting customers requirements..” ..” private sector owners, entrepreneurs, they are more focus on production, they focus on latest technology..” “.... I mean that they need to come out with the regulations, rules and other thing like waste protective measures, then ETP, all these are there....” “..we have food safety certification, we have other ISO certification, all these certification are there. Under these certifications, we have checks regularly internally we do check environmental aspects, WTP (Water Treatment Plant), ETO (Effluent Treatment Plant),..” “...we are hiring them, we are on boarding them, we are taking them through intensive training and we are developing them through, engaging them...”

	6.Promote environmental awareness among our employees and encourage them to work in an environmentally responsible manner, 7.Communicate our environmental commitment to stake holders and encourage them to support it 8.Where required by legislation or where significant health, safety or environmental hazards exist, develop and maintain appropriate emergency and spill response programs. It's about corporate responsibilities through positive contributions to environmental quality and to the communities in which we live and operate our businesses. We believe in the society around us and in the power of all.	“..We have environmental compliance and social compliance...” “..careful and the vigilance and governance from the regulator side has to be more emphasized...”
B	The industrial wastage means little to the group because their factories have been built up with recycling and the environment concept. A large number of people are employed by the group and cared for as members of the family. The non-profit concerns are also involved in sustaining development of the country.	“... Long back we started using the resources from mother earth, but one day we might find the resources are not available. For instance; if we talk about the storage of energy through batteries, these batteries are based on some materials like lithium and copper or any other similar materials that are limited resources..” “..Energy is the most vital thing for the production of anything. But unfortunately, the global energy giants are investing for the supply or the production improvement...”

		“..Govt is a supporting body. The Government will do what we are seeking. The government is not supposed to know our problem unless you’re not saying that. So if the entire industry can showcase the benefits of a circular economy, and how it can be achieved to the government, then I believe the government will play the role to support us.....” “..we maintain a state of art technology in terms of our infrastructure, sitting management, dining facilities, washroom facilities, we are one of the best organizations...”
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Analysis:

Proposition 1. Based on the theories of entrepreneurship and CE, CEps need to make heterogeneous resources to be competitive in CE.

From the field visit and case analysis it is evident that CE needs to make heterogeneous resources blending CEps principles. In this case, entrepreneurial process such as cognition, entrepreneurial alertness, understanding market opportunities and coordinated knowledge should be align with CE principles. For instance, CEps must think circularity of the resources rather than thinking linear way. CEps need to be alert about the available opportunities that bring CE and should up-to-date regarding technological changes. As respondent of one company said, “....One of our vision is to become a sustainable global conglomerate, in meeting customers requirements...” Their vision will influence them to be circular and hence they will commit for resources for being competitive in the market. There are ample opportunities to produce heterogeneous outputs because in CE, market opportunities and coordinate knowledge would be different. For instance, companies can recycle or upcycle the

waste materials adopting technology. With the same input of waste materials companies are now producing different heterogeneous outputs.

Proposition 2. CE brings resource immobility and CEps can get this opportunity

Resource immobility is an important condition in RBV, hence, it can also be applied in the present context. Resource immobility indicates the inability of competing firms to gain resources from each other (Madhani, 2010). Entrepreneurs always try to achieve rare and valuable resources and for doing so they innovate something new for the society. However, in CE, CEps can do so by bringing innovative ideas that utilize resources effectively and efficiently. Although resource immobility is not impossible but to some extent resources such as technology and know-how can be restricted for competitors for gaining short-term competitive advantage. Sometimes these technologies imitated by other firms but first mover advantages will be available for leading firms in CE. For sustained competitive advantage, firms must move fast to adopt new resources than its competitors.

Proposition 3. In CE, CEps can limit the competition and can get superior position in the market by gaining technological superiority.

One of the important issues in RBV is limiting the competitive forces and for gaining competitive advantage firms must have capabilities to restrict other firms to be competitive in the same industry. However, as the CE is not yet fully practiced in the current market situation, entrepreneurs are not feeling intense competition and there are lots of opportunities to sustain competitive advantage. Entrepreneurs such as Pran-RFL said, "...Competitors, external, stakeholder don't play any role in this kind of thought process." This statement clearly indicates that the CE market competition not yet settle and market composition and the actors of the markets are not yet established. Hence, firms like Pran-RFL whose has huge resource composition can take a lead to become market leader.

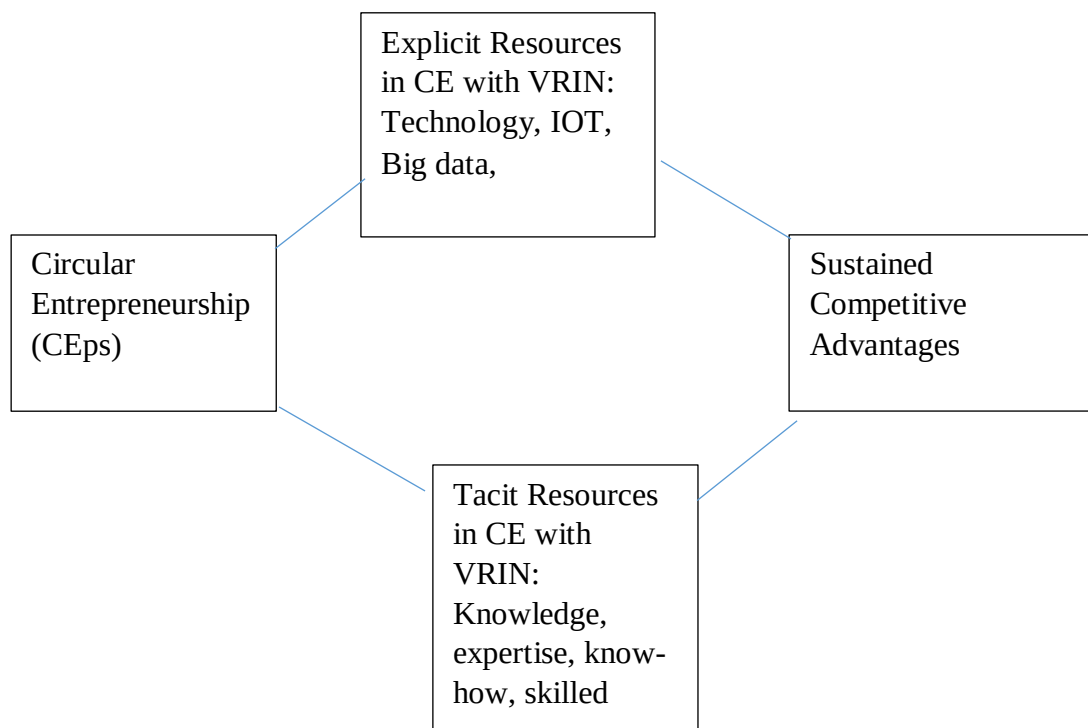
Proposition 4. Companies can limit competition prior to establishing a superior resource position.

A superior resource position is not easy to establish in CE, however, companies those who brought new technologies from outside of the country, they enjoy relatively superior position. All those companies studied in this paper enjoy some sorts of competitive advantages because they imported state-of-the art technologies from outside of the country. They focus on long-term benefit of technologies and invest in those modern technologies. For instance,

according to top executive of one company, “the machinery we use, most of the machinery are from European technology, because our owner say that if we use in machinery, in long term it give return. But if we use less costly machinery, we will not be sustainable.“

Almost all of the executives agreed that technology would be the vital point to transition into CE and resources here mean technological innovation that can modify the existing resources.

From the above cases and theoretical background we propose the following model which reflect the adoption and transition to CE in the lens of RBV for CEps:



Research Model: Gaining Sustained Competitive Advantages in CE through CEps in the lens of RBV.

Based on the case and literature review we developed above model and it's clearly shows how an entrepreneurial firm can gain sustained competitive advantages. CEps model helps to understand the resource configuration in CE and CEs need both explicit and tacit resources

with VRIN characteristics to be competitive in the market. For example, CEps can make a difference in CE by integrating, collecting, transforming both explicit and tacit resources. As the knowledge regarding CE and technology is dearth among firms, so firms with new technology can get competitive advantages.

Managerial Implications:

This study brings a new perspective in CE, and investigate the issue in RBV and in the lens of entrepreneurship. CEps is less studied in the literature of entrepreneurship and there are huge gap in literature and practice. Researchers are agreed that this CEps issue should be more popularize to adopt the principle of CE. Researchers suggest the following managerial implications:

1. Managers and policy makers must address the new reality of CE and find a way to distinguish their resources for sustained competitive advantage
2. The world is now facing environmental degradation and CE is now considered as a tool to fight the global climate change. Therefore, CEps must find the new resource configuration and exploit and explore new resources in CE.
3. Most of the managers and entrepreneurs interviewed mix-up the concept of CSR, Sustainability and CE. Now, it is the time to make a clear demarcation among the concepts and encourage internal leadership to be circular in production process.

Limitations: The important limitation of the study is that the study is only based on 3 largest companies of the country. This limitation could be minimized including more case companies in the study area. Moreover, more interviews within the company would be more depth understanding of the CEps and the adoption of CE. The time limitations also important in this case and getting access to the interviewee is another aspect to be considered. Managers always skeptical in any interview and sometimes rigid organizational policy restrict qualitative interview.

Future Research Directions:

Future research can minimize the limitations by conducting more case analysis and taking more interview from the same companies. Other methodologies can also be applied for minimizing the limitation. A mix method on CE and other theoretical lens

also can be applied to get different perspectives regarding CEps and its applicability in emerging economies. Cross-country and comparative study also could be possible for getting more insights in this concept. Taking more industry experiences and taking more interviews will provide more insights and ensure quality data and hence can provide better results for the study.

Conclusion:

Although this study has some limitations, however, it has brought an important issue to the managers and policy makers and looked into the CE in the RBV and in the lens of CEps. So far our knowledge goes, the literature is still lacking to combine these three issues together and provide a deep understanding of RBV in new circular reality. This is the most important contribution of the study. Furthermore, the study provides a fresh perspective of resource based in CE and provides link between CE and CEps which would be a great contribution in the existing literature. CE is the reality and many countries of the world already adopted CE principles to tackle climate change and global warming. Entrepreneurs and managers must come forward to adopt CE principles in their business model, product design, and overall everyday business practices. Government and policy makers also need to be aware about climate change and adopt CE principles in their national agenda as soon as possible. Considering its importance, the authors conclude that policy makers, entrepreneurs and managers should use CE as a strategic tool so that they can ensure resource configuration for sustained competitive advantage.

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