

Mapping innovation in Indonesian cooperative: priorities, obstacles and challenges to survive

Novita Puspasari* and Yudha Aryo Sudibyo

Universitas Jenderal Soedirman,
53122 Purwokerto, Jawa Tengah, Indonesia

Email: novita.puspasari@unsoed.ac.id

Email: yudha.sudibyo@unsoed.ac.id

*Corresponding author

Abstract: Indonesia has the largest number of cooperatives in the world, however cooperatives have not been able to contribute optimally to the country's economy. Therefore, innovation is needed in order to develop Indonesian cooperatives. This research aims to measure cooperatives innovation priorities and map such innovations in Indonesia. The method used was mixed method through survey and in-depth interviews sequentially. 1,050 cooperatives became the respondent of the survey, while 113 cooperatives became the participant of the interviews. The study found that innovation priority in cooperatives varies among provincial clusters and quadrants. The implications of this research will be a baseline for conducting necessary interventions to build cooperative innovation ecosystem in Indonesia.

Keywords: cooperative; innovation; mixed method; innovation ecosystem.

Reference to this paper should be made as follows: Puspasari, N. and Sudibyo, Y.A. (2021) 'Mapping innovation in Indonesian cooperative: priorities, obstacles and challenges to survive', *Int. J. Economic Policy in Emerging Economies*, Vol. 14, No. 2, pp.214–225.

Biographical notes: Novita Puspasari is an Assistant Professor at Accounting Department, Faculty of Economics and Business, Universitas Jenderal Soedirman, Indonesia. She is the Head of Co-operative and SMEs Innovation Hub at the School and serves as an executive committee at The Indonesian Consortium for Cooperative Innovation (ICCI). Her research interests are in the field of cooperative, small medium enterprises and public sector accounting.

Yudha Aryo Sudibyo is the Head of Accounting Department, Faculty of Economics and Business, Universitas Jenderal Soedirman. His research interests are in the area of taxation, public sector accounting, and cooperative.

This paper is a revised and expanded version of a paper entitled 'Mapping Innovation in Indonesia cooperative: soliciting survival of the fittest' presented at 4th SSBRN Symposium 2019 Special Issue Discussing Business and Finance Using Interdisciplinary Approaches, Tokyo, 13–14 February 2020.

“It is not the strongest of the species that survive, nor the most intelligent, but the one most responsive to change.”

– Charles Darwin

1 Introduction

The rapid development of information technology and the internet have brought major changes in all sectors of life, including economic and business sectors. This significant change marks a new chapter of the century known as the Fourth Industrial Revolution which based on sophisticated artificial intelligence (AI) technology, business models, and other supporting technology infrastructures. In economic and business sectors, online applications are massively used by the public. The latest data recorded that smartphone users reach 170 million people; in other words, equal to half of Indonesians use smartphones (We Are Social, 2019).

Technology also changes the role of entrepreneurs and business innovation in developing countries (Sergi et al., 2019). Various institutions and companies experience disruption from these developments, for instance, in the financial sector financial technology, which provides users with a variety of service features. The conventional banking industry is directly affected by the presence of financial technology, e-money and various cashless payment facilities. The most familiar in the daily life of the community is on-demand services (ODS) applications such as online transportation, courier, shipping, hotel, and other applications that have disrupted existing incumbents.

In this big transformation, cooperative is in the midst of its waves and also disrupted when various things are already accessible through smartphones. Furthermore, the dynamics of Indonesia's cooperatives have not yet demonstrated the ability to adapt to this major change. Most cooperative business models are still conventional, dominated by three major types: financial, consumption and production. The business model has not developed in the past few decades due to the lack of research and development work. As a result, cooperatives have stagnated in both business and institutional terms, albeit Birchall and Ketilson (2009) found that cooperatives are one of the resilient business models in the crisis era. In contrast to other business models, cooperatives are resilient in spite of their community-based economic activities, thus community is the strongest support system for the cooperatives.

Demographically, Indonesia will experience a demographic dividend where 70% of its citizens are productive age. There is also a shift in the demographic percentage which the number of young people reached 35% of the population (Kementerian Komunikasi dan Informatika, 2019). In the next 10–20 years, the workforce will be dominated by millennials (Y and Z) and alpha generations. The phenomenon has started recently in various companies. The company has started to hire more millennial generations, but the leadership is in the generation X and some baby boomers. Furthermore, millennials have different traits and behaviours that the previous generations (Yeo et al., 2019). It is a challenge to equalise rhythm and frequency between generations with different values, cultural and aspirational preferences.

In cooperative sector, big challenges will be faced by cooperatives in which most cooperatives in Indonesia are still led or controlled by the baby boomer generation and generation X. Regeneration of management and managers takes place slowly in contrast to private companies that have clear career patterns. One of the reasons is because most still see cooperatives as a side activity space (side jobs) so they do not think about managing them professionally. In the next 10–20 years, it could be dangerous for cooperatives with long-term mentality who rely on how to manage as usual business. Cooperatives may lose its relevance to members and the community.

Regarding to the point of view of a business's sustainability, the emergence and the death of a company is somewhat inevitable. Nevertheless, in a cooperative company it must be more anticipated because the cooperative is a collective or joint company where it is established with members assets. It means that if a cooperative could not sustain, it has eroded some of the assets of its members. Therefore building a cooperative's dynamic capabilities is the same as an effort to save member assets in the thousands or even millions of people. Dynamic capability is the ability of cooperatives to adapt in new times or new challenges. In this context the Fourth Industrial Revolution has a different mode from the Third Industrial Revolution, which is why cooperatives must respond in different ways to be sustainable and relevant.

Future challenges will increase when all infrastructure is ready to be used in Indonesia. Sophisticated technology such as the use of robots, three-dimensional printers, the use of big data and other forms of technologies will increase sharply and massively. The changes have currently occurred are just small part or beginning of the Industrial 4.0 era. The process will still continue to accelerate in the future. If cooperatives do not innovate, they will not be relevant and will eventually be left behind (OECD, 2015).

This research aims to measure the priority of cooperative innovation and map cooperative innovation in Indonesia. The implications of this research for stakeholders are as a baseline for conducting the necessary interventions regarding to the cooperative innovation agenda in Indonesia. The next part of this paper is organised as follows. Section 2 describes the literature review regarding innovation. Section 3 explains the research methods applied. Section 4 presents the results of the research and discussion. Section 5 contains conclusions, implications, limitations and future research opportunities.

2 Literature review

2.1 Definition, values and principles of cooperatives

The ICA (2020) defines cooperatives as an “autonomous association of persons united voluntarily to meet their common economic, social and cultural needs and aspirations through a jointly-owned and democratically-controlled enterprise”. Furthermore, ICA also emphasises that cooperatives is the practical application of an old idea of cooperation. Cooperation is a social process which individuals work together to achieve a common goal. International Labour Organization (ILO) stated that cooperatives have two agendas: economic and political (Tchami, 2007).

Regarding to its economic agenda, cooperatives must serve their members through their enterprise's products and services. Regarding to political agenda, cooperatives provide an equal portion to their members to take part in the management in cooperatives, to nominate the board and management committee, to vote for directors, etc. The dual roles differ cooperatives from other business models.

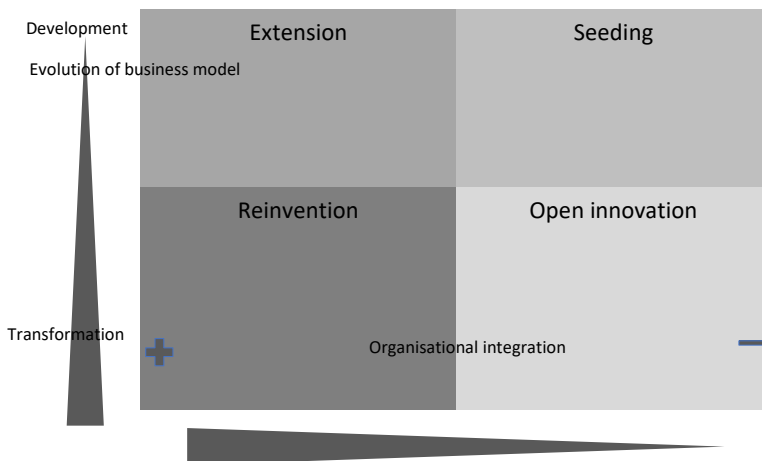
As an enterprise, cooperatives guided by values in running their business. The values consist of: self-help, self-responsibility, democracy, equality, equity solidarity and the ethical values of honesty, openness, social responsibility and caring for others. Moreover, cooperatives do not maximise profit but 'benefits' for their members. Benefits refer to activities which can improve the living condition of cooperatives members. This is also what differ cooperatives from a capitalist enterprise which maximising its profits.

2.2 Pillar of innovation

Innovations that have been made by various parties have produced various major changes, which have been directly or indirectly, enjoyed by wider community. Innovation answers various problems with new solutions so that it is more solution. Public services become more efficient with innovation and businesses become more efficient and productive. In the results of his research Brat et al. (2016) found that there are two key dimensions of innovation: innovation goals and organisational models that support innovation.

In the dimension of innovation goals, the focus is on transforming the current business to better serve existing members or expand the business model to new members and new services. While on the dimensions of the organisational model that supports innovation, the focus is on two things: first, innovation that depends on internal resources and structures and second, innovation that depends on external mechanisms such as incubator institutions or accelerators.

Figure 1 Four innovation logic of cooperative (see online version for colours)



Source: Brat et al. (2016)

In the report of the research conducted by Brat et al. (2016), there are four logic of cooperative innovation, namely:

- 1 extension
- 2 seeding/placement
- 3 reinvention
- 4 open innovation.

In reinvention, living labs are needed, space for creativity and experimentation available to employees, members and outside cooperatives. While open innovation requires cooperative openness to the experimentation and adaptation of technology that has the potential to transform business models. The second key is: experimentation space.

Unfortunately, cooperatives in Indonesia have taken for granted the innovation variable in institutional and business development for decades. Institutional development of cooperatives are stuck compared to other countries that have many models such as social cooperatives, community cooperatives, platform cooperatives, workers cooperatives and so forth. In Indonesia only five types of cooperative models are known: finance, consumption, production, services and distribution.

The pillar of innovation as an effort to adapt and build dynamic capabilities facing the Fourth Industrial Revolution is an objective need for cooperatives that cannot be paused. Through these pillars of innovation, cooperatives can develop dynamic capabilities in various aspects of their institutions and businesses and like experience of various institutions or companies, it must be done intentionally (by design) and not naturally because innovation requires advanced thinking skills (higher order thinking skills/HOTS) therefore it must be developed systematically and coherently. Various limitations can be bridged by building collaborative strategies among relevant stakeholders. Collaboration can be realised in a node or hub that encourages the process of joint learning (learning group organisation), the exchange of knowledge and skills, continued research and development, incubation of new models, acceleration and replication of models and the production of various modules.

3 Research method

This research used quantitative and qualitative methods sequentially. The data collection method used in the quantitative approach is an online survey. While the data collection methods used in the qualitative approach are in-depth interviews. Respondents from the online survey were 1,050 respondents from all regions in Indonesia, except Papua. The online survey was conducted via the link bit.ly/risetinovasikoperasi. In-depth interviews were conducted on 113 cooperatives originating from five clusters consisting of five provinces and ten regencies. Provincial clustering is based on village potential data (availability of cooperatives, credit receipts, number of banks, sea use, main income sources), labour force surveys (trends in type of work), competitiveness index, severity of poverty, and human development index (Kementerian PPN/Bappenas, 2019). Table 1 are nine regional cluster versions of Bappenas.

Of the nine Bappenas version clusters, this study only used five clusters. The selection of the five clusters is due to a consideration that several clusters have similar

characteristics. From each cluster five provinces were chosen. The five provinces are: DKI Jakarta, Central Java, Bali, West Kalimantan and Bangka Belitung. From each province, two regencies were selected each with low gross regional domestic product (GRDP) and high GRDP. GRDP data obtained from the Central Statistics Agency (BPS, 2019). Regencies with high GRDP include: South Jakarta, Semarang, Denpasar, Pontianak and Pangkal Pinang. While regions with low GRDP include the Kepulauan Seribu, Magelang, Klungkung, Melawi and East Belitung.

Table 1 Regional clusters

1	2	3	4	5
Nusa Tenggara Timur	Maluku	Bengkulu	Sulawesi Barat	Gorontalo
Papua	Maluku Utara	Jambi	Sulawesi Selatan	Nusa Tenggara Barat
Papua Barat		Kalimantan Barat	Sulawesi Tengah	
*Kalimantan Utara		Kalimantan Selatan	Sulawesi Tenggara	
		Lampung	Sulawesi Utara	
		Sumatera Selatan	Sumatera Barat	
		Sumatera Utara		
6	7	8	9	
Aceh	Banten	Bali	DKI Jakarta	
Jawa Tengah	Kalimantan Tengah	D.I. Yogyakarta	Kepulauan Riau	
Jawa Timur	Kalimantan Timur	Jawa Barat		
	Kepulauan Bangka Belitung			
	Riau			

4 Result and discussion

4.1 Innovation priority: online survey results and in depth interviews

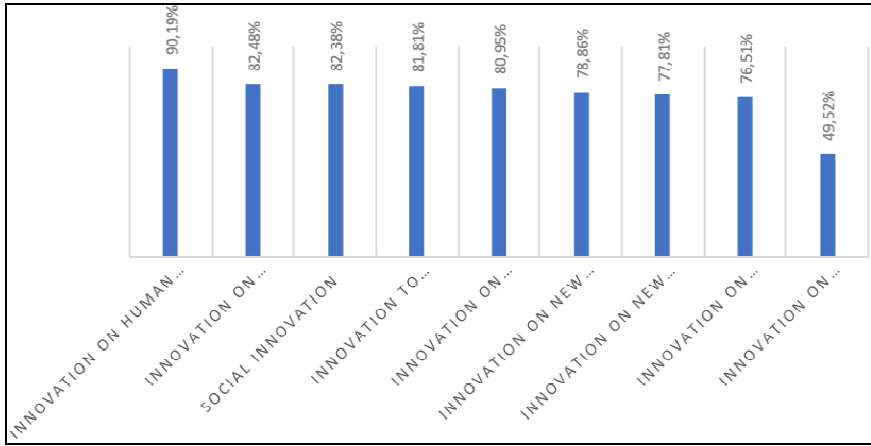
The results showed that cooperative innovation priorities in the next few years, the majority of respondents answered strongly agree and agree to the item 'innovation in human resource development' by 90.19%, followed by innovation in marketing, social innovation, innovation in increasing the number of members, innovation in products and existing services, innovation in technology adoption, and so on. This is reinforced from the results of in-depth interviews which stated that cooperatives, both large cooperatives (referring to assets > 10 billions) and small cooperatives, both emphasised the importance of innovation in HR. The innovations in human resources referred to by these cooperatives are in the recruitment process that can attract young, high-quality and highly-educated human resources, training programs and mentoring that are right on target from various stakeholders, and more promising salary/incentive schemes. As the study from Amelia and Ronald (2018) strengthen this finding since education and human resources play major role in cooperative key success. Another study from Blake and

Gano-An (2020) also found that human resource innovation is a vital discourse particularly in business and organisations.

On the other side, the results of cooperatives in Indonesia are different from the results of research in cooperatives in South America and Europe (Brat et al., 2016) as well as the results of innovation research in companies in the USA (BCG, 2015). Brat et al. (2016) research results show that cooperatives in South America and Europe place more emphasis on innovation in new services in the first place, followed by innovation in technology and then only social innovation and HR innovation. While BCG (2015) research in large companies shows that US companies place more emphasis on technological innovation, product innovation and business process innovation.

This result also reinforces the fact that cooperatives in Indonesia are in a crisis of human resources. Therefore, there is an urgency in recruiting more qualified human resources in order to develop cooperatives.

Figure 2 Innovation priority (see online version for colours)



4.2 Obstacles to innovation: survey results and in depth interviews

Based on the results of an online survey that can be seen in Figure 3, the three biggest obstacles to innovation are: implementing an innovation idea (preferring) to avoid risk, and difficulties in marketing an innovation idea. This is different from the previous two studies. According to Brat et al. (2016), the cooperatives in Europe and South America are: the time required for the development of innovation is too long, the difficulty of marketing innovation ideas and the tendency to avoid risk (risk-averse). The results of Brat et al. (2016) research are the same as the findings of BCG (2015) on innovation in the company. From the results of in-depth interviews, the difficulty in implementing ideas in cooperatives in Indonesia returned to the HR factor. While the problem of risk aversion (risk averse culture) turns out to be a problem, both in cooperatives in Indonesia and in cooperatives abroad. In in-depth interviews found the fact that the management and management of cooperatives mostly play in the ‘comfort zone’, because even with a small risk, their cooperatives can survive. This custom makes cooperative management and managers not dare to explore the possibility of costly and high-risk innovations such

as business model innovations. This is supported by previous data that business model innovation is only ranked eighth out of nine types of innovation.

4.3 Challenge of innovation: survey results and in-depth interviews

From the results of the online survey, it is known that three main factors that constitute challenges in innovation are: developing innovation ideas, being able to compete in a tight market, and getting internal support. The research results of Brat et al. (2016) show three challenges of innovation, namely: prioritising ideas to be implemented, financing innovation ideas, and developing innovation ideas. Kostini and Raharja (2019) stated that cooperatives and small medium enterprises in Indonesia almost always faced difficulty in gaining financial support for external parties. From the results of in-depth interviews it is known that the development of innovation ideas in cooperatives, again returning to the HR limitation factor both in quantity and quality. The age factor is one of the obstacles according to some cooperatives because the human resources involved in cooperatives are quite old, there are rarely young people who want to get involved/work in cooperatives. This resulted in hampered production of knowledge and skills in cooperatives.

Figure 3 Obstacles to innovation (see online version for colours)

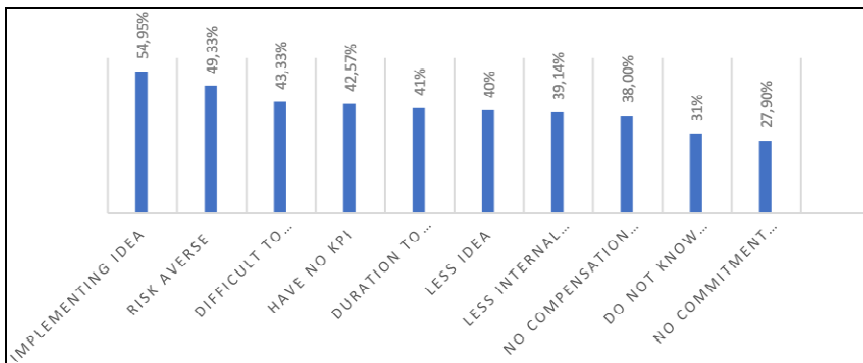
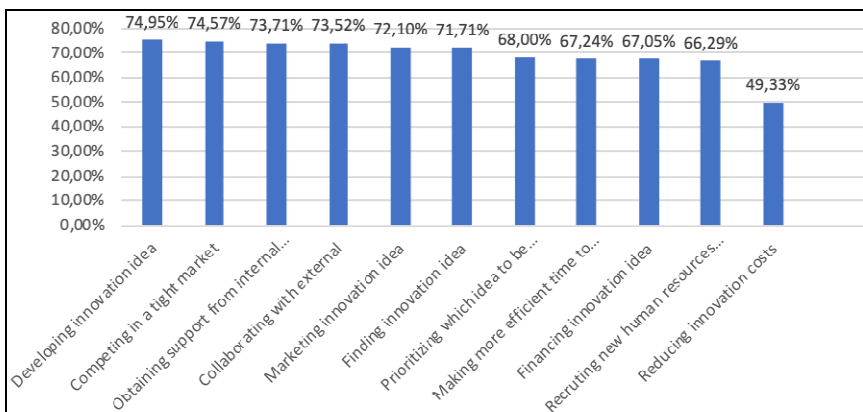


Figure 4 Challenge of innovation (see online version for colours)



Another factor encountered in the field is the challenge of getting internal support. Internal support in question is the manager/manager and members. In some cases it was found that the management or manager was willing to innovate, but constrained members who did not understand the essence of innovation so that innovation was forced to fail. Despite in some cases, innovation can be done with the approach of massive management and managers (i.e., credit union in West Kalimantan).

4.4 Additional analysis: cross analysis and cluster analysis

4.4.1 Cross analysis: number of members

From the cross-analysis table between the number of members and the innovation priority agenda for cooperatives over the next few years the following results are obtained: Innovation is a priority agenda for cooperatives with members above 600 people (>600). This is also evident in the analysis of business model innovations. Innovations in business models tend to be carried out in cooperatives with members above 600 people (>600). This is proven by other innovations such as: innovation in new products and services. However, for innovations in existing products and services and HR innovation, the number of members is not very influential. HR innovation is an innovation priority, both in cooperatives with few members (0–200) or many. The number of cooperative members does not affect the risk averse culture (risk averse) and the challenges of collaborating with external parties, as well as the obstacles in the form of a culture of risk avoidance that is evenly distributed in cooperatives with large or small members.

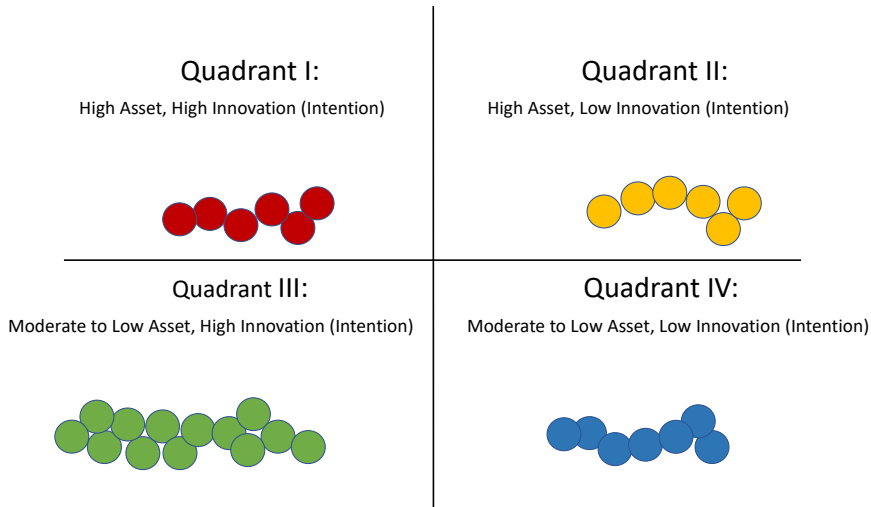
The nine clusters were cross-analysed again for several key indicators. However, data 1 and 2 can not be used because the number of respondents is too small. The results of the nine cluster analysis show that innovation is the highest innovation priority in cluster 8 (Bali, DI Jogjakarta, and West Java), cluster 7 (Banten, Central Kalimantan, East Kalimantan, Bangka Belitung and Riau), and also cluster 3 (Bengkulu, Jambi, West Kalimantan, South Kalimantan, Lampung, South Sumatra and North Sumatra). Meanwhile, innovation in new products and services is highest in cluster 4 (West Sulawesi, South Sulawesi, Central Sulawesi, Southeast Sulawesi, North Sulawesi, West Sumatra) and 8. Innovations on existing products and services are cluster 3, 4, and 8. Business model innovation is the highest priority in cluster 7 (Banten, Central Kalimantan, East Kalimantan, Bangka Belitung and Riau), and 8 (Bali, DI Jogjakarta, and West Java). Marketing innovation is the highest priority in clusters 8, 5 (Gorontalo and West Nusa Tenggara) and 4. An interesting finding is that HR innovation is a priority in all clusters.

For culture of avoiding risk is the biggest obstacle in cluster 4, cluster 7 and cluster 6 (Aceh, Central Java, East Java). While the cluster that at least considers that avoiding risk is an obstacle (a cluster that is more risk takers) is cluster 9 (DKI Jakarta and Riau Islands). The financing of innovation ideas is an obstacle in clusters 1, 7, and 9. The challenge of being able to collaborate with external parties is the challenge felt by clusters 7, 8 and 9. The challenge to compete in tight markets is in clusters 7, 3 and 9.

From the results of in-depth interviews, it is known that some additional information such as the amount of cooperative assets and at the same time reconfirm the intentions of innovation of each cooperative. Based on assets and intentions of innovation, cooperatives that we interviewed are divided into four quadrants: quadrant 1 consists of cooperatives that have high assets (>10 billion) and (intention) high innovation. The

cooperatives in quadrant 2 are quadrants that have high assets but low (intention) innovation. Quadrant 3 is filled by cooperatives that have medium to low assets, quadrant 4 is filled by cooperatives that have medium to low assets but the intention of innovation is low.

Figure 5 Asset versus innovation quadrant (see online version for colours)



Cooperatives in quadrant 1 are mostly cooperatives owned by employees of private companies/countries owned enterprise that do have a work culture and a high climate of innovation. Cooperatives in quadrant 2 are cooperatives that are already in the comfort zone so they are not interested in innovating. The reason is 'this can work'. Cooperatives in quadrant 3 are cooperatives that have the potential to grow rapidly if accelerated capital, because they already have a passion for innovation. The cooperatives in quadrant 4 are cooperatives that are threatened that they cannot survive and are immediately disrupted.

5 Conclusions

Cooperatives are required to innovate in order to sustain and remain relevant in the Industrial Revolution 4.0 era. From the results of initial identification, the priorities for cooperative innovation in the next few years are: innovation in HR development, followed by innovation in marketing, social innovation, innovation in increasing the number of members, innovation in existing products and services, innovation in technology adoption, and so on. The three biggest obstacles to innovation are: implementing an innovation idea (preferring) to avoid risk, and difficulties in marketing an innovation idea. Three main factors that constitute challenges in innovation are: developing innovation ideas, being able to compete in competitive markets, and obtaining internal support.

Innovation is a priority agenda for cooperatives with members above 600 people (>600). HR innovation is an innovation priority, both in cooperatives with few members

(0–200) and more than 200 (>200). Innovation is the highest innovation priority in cluster 8 (Bali, DI Jogjakarta, and West Java), cluster 7 (Banten, Central Kalimantan, East Kalimantan, Bangka Belitung and Riau), and also cluster 3 (Bengkulu, Jambi, West Kalimantan, South Kalimantan, Lampung, South Sumatra and North Sumatra). An interesting finding is that HR innovation is a priority in all clusters. Based on assets and intentions of innovation, cooperatives are divided into four quadrants: quadrant 1 consists of cooperatives that have high assets (>10 billion) and (intention) high innovation. The cooperatives in quadrant 2 are quadrants that have high assets but low (intention) innovation. Quadrant 3 is filled by cooperatives that have medium to low assets, quadrant 4 is filled by cooperatives that have medium to low assets but the intention of innovation is low.

Further research should measure member's roles and the demography. Further research also may experiment cooperative innovation modelling based on best practices in each field. Regarding to policy making, this research can be a reference for policy makers to develop cooperative innovation based on clusters or scale of cooperatives therefore innovation is in accordance with cooperative capability and needs.

References

- Amelia, A. and Ronald, R. (2018) 'Efforts to enhance active cooperatives in Indonesia based on macroeconomic variables', *Int. J. Economic Policy in Emerging Economies*, Vol. 11, No. 4, pp.411–422.
- Badan Pusat Statistik (BPS) (2019) *Produk Domestik Regional Bruto di Indonesia* [online] <https://www.bps.go.id/publication/2018/10/05/89552064fb46e82d2b50468f/produk-domestik-regional-bruto-kabupaten-kota-di-indonesia-2013-2017.html> (accessed 9 December 2019).
- Birchall, J. and Ketilson, L.H. (2009) *Resilience of the Cooperative Business Model in Time of Crisis*, International Labour Office, Geneva.
- Blake, P. and Gano-An, J. (2020) 'Advancing sustainability innovation within the organizational learning sphere', *JBFEM*, Vol. 3, No. 1, pp.23–32 [online] <https://doi.org/10.32770/jbfem.vol323-32>.
- Boston Consulting Group (BCG) (2015) *The Most Innovative Companies 2015: Four Factors That Differentiate Leaders* [online] <https://www.bcg.com/publications/2015/growth-lean-manufacturing-innovation-in-2015.aspx> (accessed 22 November 2019).
- Brat, E., Inmaculada, B.M. and Nabila, O. (2016) *Innovation: Priorities and Practices in Cooperatives*, Alphonse and Dorimene Desjardins International Institute for Cooperatives.
- International Cooperative Alliance (ICA) (2020) *Cooperative Identity, Values and Principles* [online] <https://www.ica.coop/en/cooperatives/cooperative-identity> (accessed 9 December 2019).
- Kementerian Komunikasi dan Informatika (2019) *Dari Bonus Demografi*, Digital Talent Scholarship, Hingga Palapa Ring [online] <https://www.kominfo.go.id/content/detail/16370/dari-bonus-demografi-digital-talent-scholarship-hingga-palapa-ring/0/artikel> (accessed 9 December 2019).
- Kementerian PPN/Bappenas (2019) *Rancangan Teknokratik Rencana Pembangunan Jangka Menengah Nasional 2020–2024* [online] https://www.bappenas.go.id/files/rpjmn/Narasi%20RPJMN%20IV%202020-2024_Revisi%2028%20Juni%202019.pdf (accessed 22 November 2019).
- Kostini, N. and Raharja, S.J. (2019) 'Financial strategy of small and medium business on the creative industry in Bandung, Indonesia', *Int. J. Economic Policy in Emerging Economies*, Vol. 12, No. 4, pp.130–139.

- OECD (2015) *The Innovation Imperative. Contributing to Productivity, Growth and Well-Being*, OECD, Paris.
- Sergi, B.S., Popkova, E.G., Bogoviz, A.V. and Ragulina, J.V. (2019) 'Entrepreneurship and economic growth: the experience of developed and developing countries', in Sergi, B.S. and Scanlon, C.C. (Eds.): *Entrepreneurship and Development in 21st Century*, pp.3–32, Emerald Publishing Limited, Bingley, UK.
- Tchami, G. (2007) *Handbook on Cooperatives for Use of Workers Organization*, International Labour Office.
- We Are Social (2019) *Global Digital Report* [online] <https://wearesocial.com/global-digital-report-2019> (accessed 22 November 2019).
- Yeo, C.M., Carter, S. and Shuo, K.Z. (2019) 'Leadership, contribution, language and shared content as metrics in Malaysian millennials' decision making', *JBFEM*, Vol. 2, No. 2, pp.153–162 [online] <https://doi.org/10.32770/jbfem.vol2153-162>.