

## Identification of Creative Clusters and Understanding its Relation with Heritage Building Clusters In Bandung, Indonesia

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**ABSTRACT :** The city of Bandung stands as a UNESCO Creative City Network in the Design sub-category in 2015 and has urban spaces with distinctive physical-spatial aspects and city characteristics, but so far there has been no in-depth study related to creative clusters in the city of Bandung which are linked to physical aspects. Spatial, and urban character. The purpose of this study was to identify the location of the creative cluster and relate it with the location of the heritage building cluster. The type of research carried out is quantitative-descriptive by processing creative industry. The data analysis method was carried out using the Geographical Information System approach through Nearest Neighbor Analysis and the Density-Based Spatial Clustering of Applications with Noise Clustering method to identify creative clusters. The same method was also used to identify clusters of heritage buildings. The results of research are the identification of thirteen creative clusters were identified. There are findings of spatial physical character relations in the creative cluster with the heritage building cluster. It was found that eleven out of thirteen creative clusters had more than 70% intersected areas of the heritage building cluster. This research shows that there is a close relationship between the existence of the creative cluster and the heritage building cluster in the city of Bandung, and this finding is in line with similar research that has been carried out in other case studies on creative cluster research in cities around the world.

**KEYWORDS** - Bandung, Creative City, Creative Cluster, Geographical Information System, Urban Character

### I. INTRODUCTION

**Background :** The city of Bandung, known by another name Parijs Van Java and as the provincial capital of West Java, also has a new identity in this modern era, namely the Creative City of Bandung. This identity has been carried out since 2015 and is included in the UNESCO Creative City Network in the Design sub-category. On its existence, Bandung is also supported by the Bandung Creative City Forum (BCCF) which acts as a cross-community creative forum and organization, declared and established by various creative communities in the city. Such organizations as Indonesia Creative Cities Network (ICCN) also based in Bandung. Bandung exists as an ecosystem or innovation center for creativity and entrepreneurship. With many initiatives driven by the city's young demographic, Bandung hosts various workshops, conferences and festivals, to encourage the development of creativity, and product design. In fact, 56% of Bandung's economic activity is related to design, with fashion, graphic design and digital media being the top three sub-sectors within the local creative economy. 35 tertiary institutions even act as incubators for students and academics to support the creative process in the city. This creative ecosystem is present in clusters that mutually support each other between creative actors, academics, and society in general.

As the ecosystem catalyst, creative industry experts often create programs in both public and private spaces. Nevertheless, this activity also involves related stakeholders and the public as connoisseurs of artworks from their respective creative fields. It then leads to the Bandung area becoming a creative milieu as a city. Some findings from conducted studies related to creative clusters outside Indonesia are even relevant with the Bandung creative cluster. First, it is found that there is a tendency of former colonial areas to play an important role in attracting creative businesses in historic areas. The special image of these historic areas contribute to generating symbolic value from cultural products [1-4]. On another side, the creative industry prefers to reuse factory districts and old buildings due to relatively low rents and the overall ambience of the building. Creative cluster areas are also often found co-located with downtown areas and universities, as well as tourist sites, entertainment areas, and dining zones. Then, the tendency of creative cluster agglomeration to be located in metropolitan core areas is consistent [5]. It is also found that the urban space created from creative activities and clusters has such specific character from the existing patterns of form and land use [2]. Urban design studies related to creative clusters from a city, or even a part of a city, cannot simply be reproduced elsewhere [6] Also, creative clusters have not been fully understood yet. At the micro-city level, empirical research on the spatial characteristics of

creative clusters is still scarce [1]. Even the creative clusters that are strongly rooted in urban areas, still often generate many perceptions. Creative space as a place for human creative activity can be connected with urban space as humans can have various types of creative activities, individually or communally, which follow human factors and their own activities [7]. Along with redevelopment of old city areas and surrounding neighborhoods, creative district projects have been launched in both post-industrial and industrial cities. The development of creative clusters is also an important issue in urban regeneration [8]. The city of Bandung exists as an urban space with physical-spatial aspects and specific urban character style, yet no in-depth study related to the existing creative city issues with the physical-spatial aspects of Bandung itself. This research presents and becomes an initial study in understanding the connectedness of the city's cultural heritage building clusters with the creative clusters which have not been identified in the city of Bandung.

### **Research Questions, Purpose, and Contribution of Research**

With the background explained above, the research focuses on two research questions, which are :

1. Where is the location of identified creative clusters in Bandung?
2. What is the relation of creative clusters with the heritage building clusters in Bandung?

This research general aim is to identify locational aspects of creative clusters and to understand the relations with heritage building clusters in Bandung. There are four main purposes of this research, which are:

1. To enact the first research about creative clusters in Bandung.
2. To do a data inventory of Bandung as a creative city
3. To give an explanation and views of Bandung as a creative city; and,
4. To show the relation between creative clusters and other urban characters in Bandung, in this research; heritage building clusters.

Therefore, this research will contribute to the following aspects:

1. To enrich the knowledge of architecture and urbanism in Indonesia for academicians.
2. To give development guidance for the practitioner, stakeholders, investors, and decision-makers in Bandung; and,
3. To show creative growth poles for the policy and development regulation in Bandung urban area.

## **II. METHODOLOGY**

This research type is quantitative-descriptive with understanding secondary data from the functional aspects and/or types of creative industries in Bandung, in which the quantitative are studied to understand the data regarding the creative clusters in Bandung, and descriptive in interpreting the cluster creative data with urban character variable, in this case, the heritage building clusters. This research is conducted in Bandung with data taken and analyzed from March to October 2022. The scope of research is limited to understanding the locational boundary of creative clusters in Bandung and knowing the intersecting area of creative clusters with the urban character variable, in this case, the heritage building clusters. What is to be understood in this research is the understanding of macro and meso-level interpretation from secondary data. The secondary data that are collected in this study are collaborating with Dinas Cipta Karya Bina Konstruksi dan Tata Ruang and Dinas Kebudayaan and Pariwisata Kota Bandung.

**Table 2.1** Creative Cluster Data Source

<i>No</i>	<i>Creative Clusters Data</i>	<i>Source</i>	<i>Type of data</i>
1	Bandung City Creative Industry Data	Disbudpar Kota Bandung - Patrakomala (2022)	Datapoint GIS

**Table 2.2** Heritage Building Data Source

<i>No</i>	<i>Urban Character Data</i>	<i>Source</i>	<i>Type of data</i>
1	Heritage Building Data	Disbudpar Kota Bandung - Sigayapinter (2022)	Datapoint GIS

Data analysis technique that are used in this research is using Geographical Information System (GIS) and is assisted using QGIS 3.22.05 Białowieża software. Data analysis is implemented in two stages, which are: 1) Cluster identification stage; and 2) Synthesis of creative cluster data with heritage building cluster data. The process of cluster identification stage is done with the following steps: 1) the Researcher to identify and cleans

data before analysis; 2) the Researchers to perform Nearest Neighbor Analysis (NNA) to get the mean distance from existing data points; 3) the Researcher to did clusterization data using the Density-Based Spatial Clustering Of Applications With Noise (DBSCAN) Clustering algorithm method; 4) Researcher to conduct the Concave Hull process and provide Buffer 400 meters from the Concave Hull line to interpret the maximum walking distance of the creative cluster, and 5) researcher to number the clusters by categorization area. The process of synthesis of creative cluster data with heritage building cluster data is done with the following steps: 1) the Researcher to do identification of related cluster categories; 2) the Researcher overlays the creative cluster area data with the heritage building cluster data that has been processed in parallel beforehand; and 3) Researcher to carry out an interpretation based on the area of intersection between the creative cluster and the heritage building cluster. The process of interpreting the data at the synthesis stage is carried out using a descriptive-qualitative method.

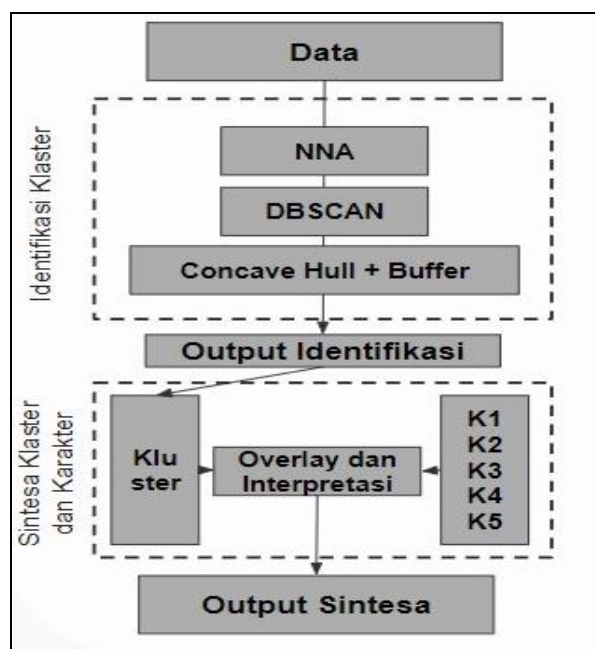


Figure 2.1 Research Analysis Framework

### III. RESEARCH FINDINGS

In this chapter we will discuss the research findings based on the analysis framework from the previous chapter.

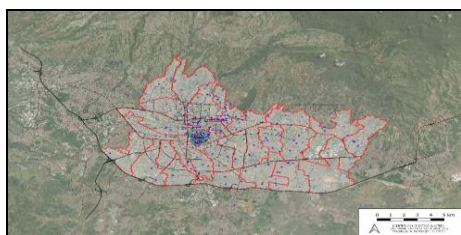
3.1. Creative Cluster Identification Stage In general, from the secondary data collected and cleaned from Disbudpar Kota Bandung - Patrakomala (2022); we have gathered 1013 data points that are integrated with geospatial location and other data in attributes table. Table 3.1 show the data distribution of creative subsectors that are identified in Bandung.

No	Creative Industry	No of Data points	%
1	Software and Games	21	2,07%
2	Architecture	22	2,17%
3	Interior Design	5	0,49%
4	Product Design	24	2,37%
5	Fashion	324	31,98%
6	Film, Animation, Video	42	4,15%
7	Photography	16	1,58%
8	Graphic Design	11	1,09%
9	Arts and Antiques	190	18,76%
10	Culinary	245	24,19%
11	Music	29	2,86%
12	Publishing	45	4,44%
13	Advertising	10	0,99%
14	Performing Arts	7	0,69%

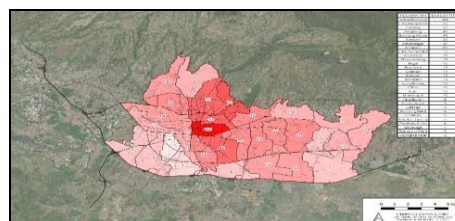
No	Creative Industry	No of Data points	%
15	Visual Arts	17	1,68%
16	Television and Radio	5	0,49%
	$\Sigma$	<b>1013</b>	<b>100%</b>

**Table 3.1** Data Distribution Of Creative Subsectors

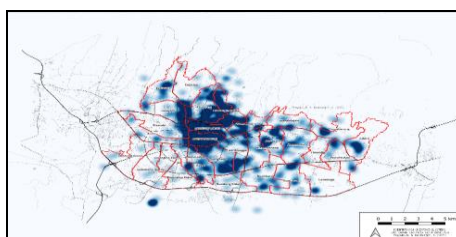
After understanding and process the table 3.1 data, then it was placed on the 2022 earth image map from Earthstar Geographics SIO, and using the geographic reference CRS (Coordinate Reference System) WGS 84 / UTM Zone 48S (EPSG: 32748) a map is obtained showing the location of points with the Bandung city boundary, Bandung City sub-district (*kecamatan*) boundaries, and the heatmap.



**Figure 3.1** Location of Data Points of All Creative Subsectors (n = 1013)

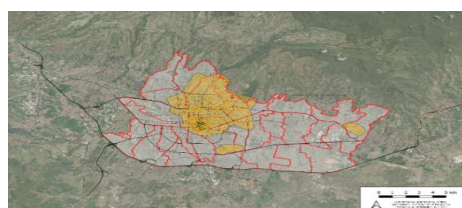


**Figure 3.2** Total Data Points in sub-district (*Kecamatan*) boundary in Bandung.



**Figure 3.3** Heatmap Data points Of All Creative Subsectors

In understanding at the macro level and as a whole, overlaying the creative cluster data from the 13 clusters into a unified data is carried out. From these data, it was found that there were 3 separate clusters, in the form of one mega-cluster in the north-center, and two other small clusters in the southern and eastern part of Bandung City.



**Figure 3.4** Bandung City Creative Cluster Map – Macro Level

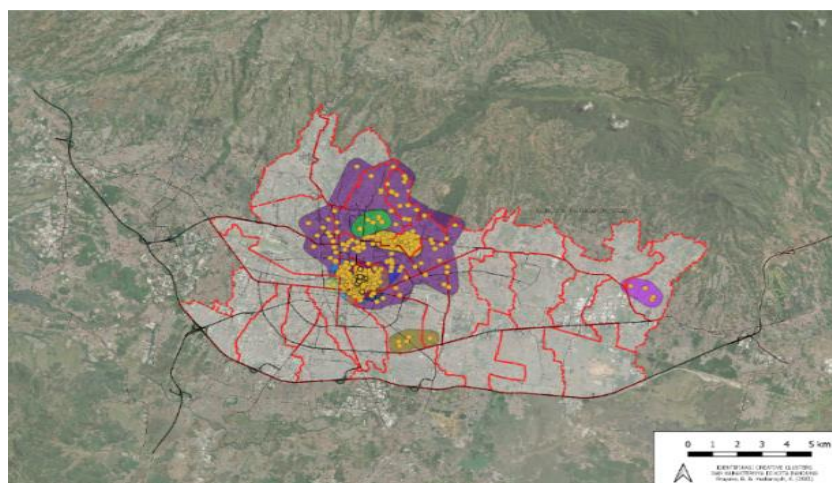


**Figure 3.5** Creative Cluster Map of Bandung City – Macro Level - North-Central Megacluster (Zoomed)

No	Identified Creative Clusters (Macro Level)	Data Points (n)	Area (Hectares)	Data points Density (n/Hectares)
1	North-Center Megacluster	588	3303,9	0,17
2	South Cluster	5	179,1	0,02
3	East Cluster	5	161,7	0,03
	$\Sigma$	<b>598</b>	<b>3644,7</b>	-

**Table 3.2** Identified Bandung City Creative Cluster – Macro Level

From the data above, one interesting finding is that there is a megacluster which covers 98.3% of all creative cluster data points of macrolevel in the city of Bandung. Therefore, further understanding is needed at the macro level and with the character of the city in the synthesis sub-chapter with a macro-level understanding. In interpreting the results of creative cluster data at the Meso level, 13 clusters were found in the Bandung City area. Most of these creative clusters overlap one another in the central part of the city of Bandung. Below is a map of the creative clusters of the city of Bandung at the meso/sub-sector level and their tabulations



**Figure 3.6** Bandung City Creative Cluster Map – Meso / Sub-Sector Level

No	Creative Subsector	No of Cluster Identified	Number of Data points (n)	Area (Hectares)	Data points Density (n/Hectares)
1	Architecture	1 cluster	11	161,6	0,07
2	Product Design	1 cluster	11	188,0	0,06
3	Fashion	2 clusters	194	354,1	0,55
4			19	182,0	0,10
5	Film, Animation, Video	2 clusters	5	179,1	0,03
6			5	159,7	0,03
7	Photography	1 cluster	6	168,5	0,04
8	Arts and Antiques	1 cluster	127	389,0	0,33
9	Culinary	2 clusters	164	3251,1	0,05
10			5	161,7	0,03
11	Publishing	1 cluster	37	188,1	0,16
12	Advertising	1 cluster	5	219,2	0,02
13	Visual Arts	1 cluster	9	124,2	0,07
	<b>Σ</b>	<b>13 Clusters</b>	<b>598</b>	<b>-</b>	<b>-</b>

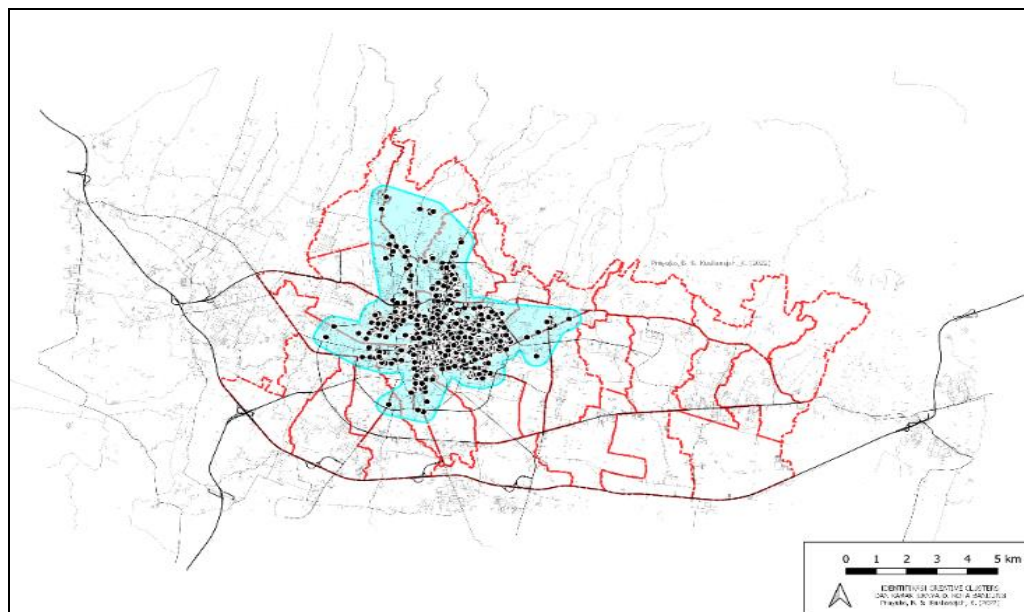
**Table 3.3** Bandung City Creative Cluster Tabulation – Meso/Sub-Sector Level

From the data above, it can be seen that one culinary cluster have the largest area, but in terms of density, one fashion cluster and arts and antiques cluster have a high density compared to other clusters. Thus, it is also necessary to consider the distribution of each cluster in terms of its locational context.

**Heritage Building Cluster Identification Stage :**In previous studies, many heritage buildings or buildings abandoned by their owners were reused in the Adaptive Reuse scheme [1,4,8] as buildings with creative functions in the sub-sectors described in the previous chapter. This research attempts to process data on heritage building in the city of Bandung. The researchers used secondary data available from the Disbudpar Kota Bandung - Sigayapinter - Sigayapinter (2022) and processed using GIS through NNA analysis and DBSCAN (Density-Based Spatial Clustering of Applications with Noise) Clustering to be able to get heritage building



cluster in the city of Bandung. It was found that there are one large heritage building cluster that are located in the center part of Bandung.

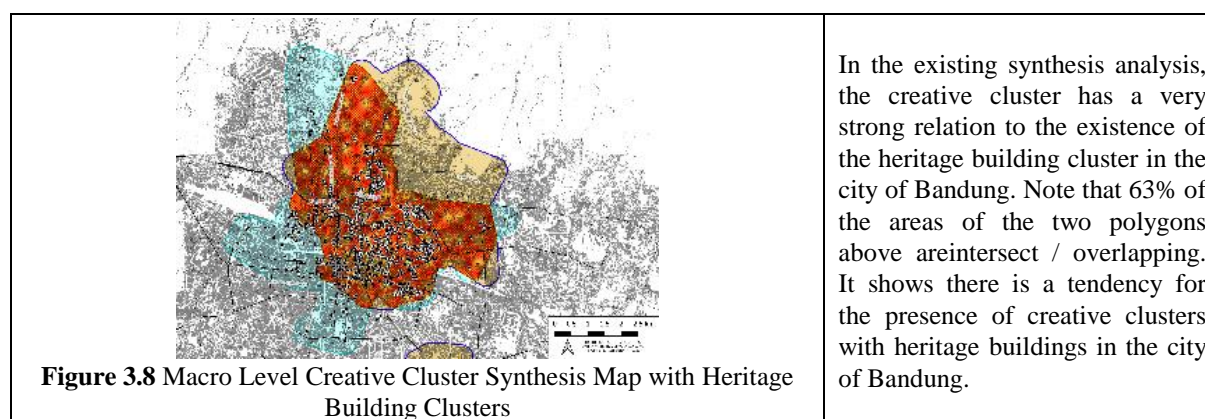


**Figure 3.7** Identified Heritage Building Cluster

**Macro Creative Cluster and Heritage Building Clusters Synthesis Stage :** The following table 3.3 is the result of a synthesis of the macro-level overlay interpretation with the Heritage Building Cluster data carried out in this study:

<i>Bandung Creative Clusters (Macro)</i>					<i>Heritage Building Cluster</i>	
	Type of Clusters	Block	Data points (n)	Area (hectares)	Intersect Area (hectares)	% of intersect area of Heritage Building Cluster with Respective Creative Cluster
1	All Creative Clusters	N/A	598	3644,7	2292,01	63%
2	Mega-cluster	N/A	588	3303,9	2293,01	69%

**Table 3.3** Macro Creative Cluster and Heritage Building Clusters Synthesis



**Figure 3.8** Macro Level Creative Cluster Synthesis Map with Heritage Building Clusters

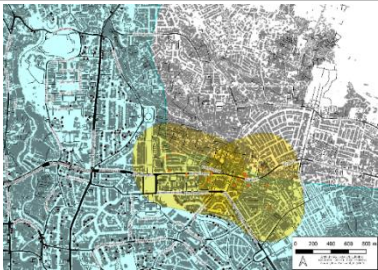
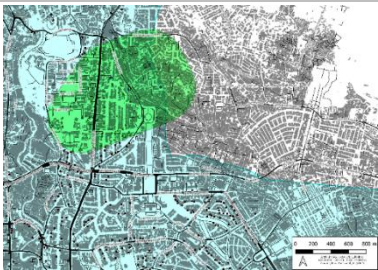
From the findings above, it can be concluded that there is a tendency for the existence of creative clusters at the macro level with the Heritage Building Clusters in the city of Bandung.

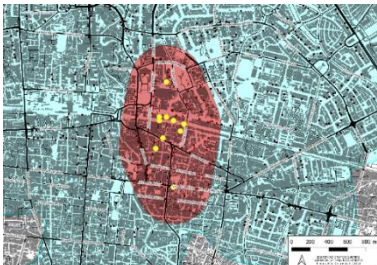
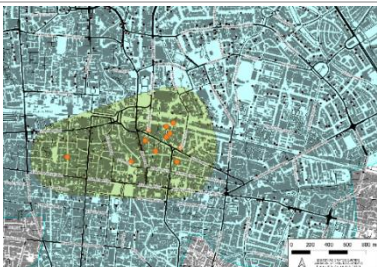
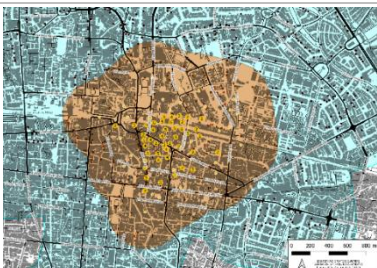

#### Meso Creative Cluster / sub-sector and Heritage Building Clusters Synthesis Stage

The following table 3.4 is the result of the synthesis of the meso/subsector level overlay interpretation with the Heritage Building Cluster data carried out in this study:

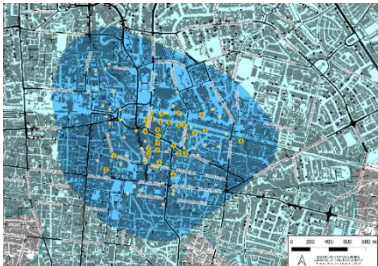
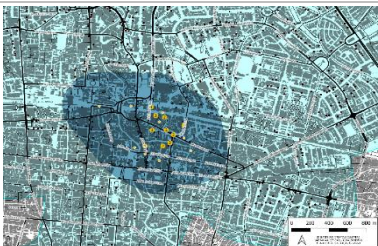
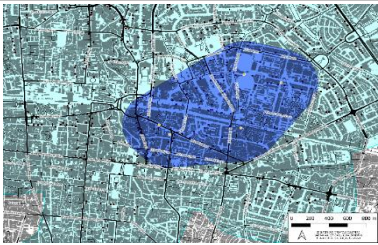
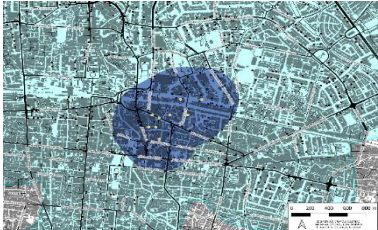
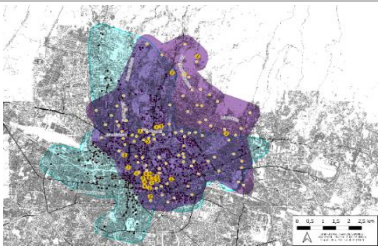
No	Bandung Creative Clusters (Macro)					Heritage Building Cluster	
	Type of Clusters	Block	Data points (n)	Area (hectares)	n/hectares	Intersect area (hectares)	%intersect area with cluster area
1	Architecture	Center	11	161,6	0,07	161,6	100,0%
2	Product design	Center	11	188,0	0,06	188,0	100,0%
3	Fashion 1	Center	194	354,1	0,55	354,1	100,0%
4	Fashion 2	North	19	182,0	0,10	127,8	70,2%
5	Film, Animation, Video 1	North	5	159,7	0,03	127,42	79,8%
6	Film, Animation, Video 2	South	5	179,1	0,03	0,0	0,0%
7	Photography	Center	6	168,5	0,04	168,5	100,0%
8	Arts and Antiques	Center	127	389,0	0,33	389,0	100,0%
9	Culinary 1	Center-North	164	3251,1	0,05	2292,0	70,5%
10	Culinary 2	East	5	161,7	0,03	0,0	0,0%
11	Publishings	Center	31	188,1	0,16	188,1	100,0%
12	Advertising	Center	5	219,2	0,02	219,2	100,0%
13	Visual Arts	Center	9	124,2	0,07	124,2	100,0%

**Table 3.4** Meso / Subsector Level Creative Cluster Synthesis with Heritage Building Cluster data

 <p><b>Figure 3.9</b> Map of Synthesis of Creative Fashion Clusters 2 (North) with Clusters of Heritage Buildings</p>	<p>In the analysis of the existing synthesis, that in the fashion 2 creative cluster has a 70.2% intersect of the entire area with the existing space of the heritage building cluster in Bandung. Therefore there is a fairly high correlation between the creative cluster and the heritage building cluster.</p>
 <p><b>Figure 3.10</b> Map of Film, Animation, and Video Creative Cluster Synthesis 1 (North) with Heritage Building Clusters</p>	<p>In the analysis of the existing synthesis, that in the creative cluster Film, Animation and Video 1 has a 79.8% intersect of the entire area with the existing space of the cluster of heritage buildings in Bandung. Therefore there is a fairly high correlation between the creative cluster and the heritage building cluster.</p>
<p>-- No intersection or data from Culinary Creative Cluster 2 - East with data from the Heritage Building Cluster --</p>	<p>No intersections and relevance were found between the culinary creative cluster 2 and the Bandung City Heritage</p>

	Building Cluster data.
-- No intersection or Data from Film, Animation, and Video Creative Cluster 2 - South with Heritage Building Cluster Data --	No intersections and relevance were found between the creative clusters of Film, Animation, and Video 2 and the Cluster of Heritage Buildings in the city of Bandung.
 <p><b>Figure 3.11</b> Map of Creative Architectural Cluster Synthesis – Central with Clusters of Heritage Buildings</p>	In the analysis of the existing synthesis, that in the Creative Architecture cluster has a 100.0% intersect of the entire area with the existing space from the cluster of heritage buildings in Bandung. Therefore there is a very high correlation between the creative cluster and the heritage building cluster.
 <p><b>Figure 3.12</b> Map of Creative Cluster Synthesis of Product Design –Central with Clusters of Heritage Buildings</p>	In the analysis of the existing synthesis, that in the Product Design creative cluster has a 100.0% intersect of the entire area with the existing space of the heritage building cluster in Bandung. Therefore there is a very high correlation between the creative cluster and the heritage building cluster.
 <p><b>Figure 3.13</b> Map of Synthesis of Creative Fashion Clusters 1 – Central with Heritage Building Clusters</p>	In the analysis of the existing synthesis, that in the Fashion 1 creative cluster has a 100.0% intersect of the entire area with the existing space from the cluster of heritage buildings in Bandung. Therefore there is a very high correlation between the creative cluster and the heritage building cluster.
 <p><b>Figure 3.14</b> Map of Creative Photography Cluster Synthesis – Central with Clusters of Heritage Buildings</p>	In the analysis of the existing synthesis, that in the Creative Photography cluster has a 100.0% intersect of the entire area with the existing space from the cluster of heritage buildings in Bandung. Therefore there is a very high correlation between the creative cluster and the heritage building cluster.



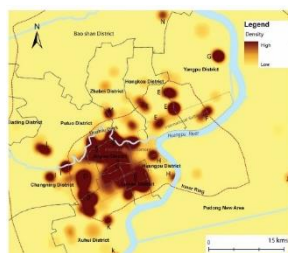
 <p><b>Figure 3.15</b> Map of Arts and Antiques Cluster Synthesis –Central with Heritage Building Clusters</p>	<p>n the analysis of the existing synthesis, that the Creative arts and antiques cluster has a 100.0% intersect of the entire area with the existing space from the cluster of heritage buildings in Bandung. Therefore there is a very high correlation between the creative cluster and the heritage building cluster.</p>
 <p><b>Figure 3.16</b> Map of Creative Publishing Cluster Synthesis – Central with Heritage Building Clusters</p>	<p>In the analysis of the existing synthesis, that in the Creative Publishing cluster has a 100.0% intersect of the entire area with the existing space of the cluster of heritage buildings in Bandung. Therefore there is a very high correlation between the creative cluster and the heritage building cluster.</p>
 <p><b>Figure 3.17</b> Map of Creative Advertising Cluster Synthesis – Central with Heritage Building Clusters</p>	<p>In the existing synthesis analysis, that in the creative advertising cluster has a 100.0% intersect of the entire area with the existing space of the heritage building cluster in Bandung. Therefore there is a very high correlation between the creative cluster and the heritage building cluster.</p>
 <p><b>Figure 3.18</b> Map of the Synthesis of Creative Visual Arts Clusters –Central with Clusters of Heritage Buildings</p>	<p>In the analysis of the existing synthesis, that in the creative visual arts cluster has a 100.0% intersect of the entire area with the existing space of the cluster of heritage buildings in Bandung. Therefore there is a very high correlation between the creative cluster and the heritage building cluster.</p>
 <p><b>Figure 3.19</b> Culinary Creative Cluster Synthesis Map 1 – North-Central with Heritage Building Clusters</p>	<p>In the analysis of the existing synthesis, that in the Culinary Creative Cluster 1 has a 70.5% intersect of the entire area with the existing space from the cluster of heritage buildings in Bandung. Therefore there is a fairly high correlation between the creative cluster and the heritage building cluster.</p>

From the findings above, 8 of the 13 creative clusters have 100% intersection, and only 2 of the 13 clusters have no intersection at all with the heritage building cluster in the city of Bandung. So it can be concluded that there is a tendency for creative clusters to exist at the meso/sub-sector level with the Heritage Building Clusters in Bandung City.

**Findings in Identification and Synthesis Stage of Creative Clusters and Heritage Building Clusters :** At the creative cluster identification stage at the macro level, three separate clusters were found, in the form of one very large cluster, and two other small clusters in the southern and eastern parts of Bandung City. From the data above, one thing that is interesting is that there is a megacluster which covers 98.3% of all creative cluster data points in the city of Bandung. Therefore, further understanding is needed at the macro level and with the character of the city in the synthesis sub-chapter with a macro-level understanding. In the synthesis stage of creative clusters with elements of city character, it was found that with the heritage building clusters, it was found that the existing creative clusters had a fairly high attachment to the existence of the heritage building clusters in the city of Bandung. Note that 63% of the areas of the two polygons above are overlapping. So it shows that there is a fairly close relationship between these two variables. At the creative cluster identification stage at the meso level, 13 clusters were found in the Bandung City area. As for most of these creative clusters are also stacked on top of each other in the central part of the city of Bandung. In the synthesis stage of creative clusters with urban character elements, it was found that with heritage building clusters, it was found that 8 out of 13 creative clusters had 100% intersect, 3 had intersect between 70% - 99% and only 2 of 13 clusters did not have the same intersect. together with the cluster of heritage buildings in the city of Bandung. Thus indicating a very high correlation between these two variables.

#### IV. DISCUSSION

Associating this research to similar conducted studies abroad, there are some findings related to the existing creative clusters and cultural heritage building clusters, or the embryonic area of the city where old buildings exist. From the study conducted by He, J. L., & Gebhardt, H, it is found that there is a tendency of former colonial areas to play an important role in attracting creative businesses in historic areas. The special image of these historic areas contribute to generating symbolic value from cultural products [1]. The creative industry prefers to reuse factory districts and old buildings due to relatively low rents and the overall ambience of the building, which is driven by the realignment of Shanghai's urban industrial district through regeneration in the city center.

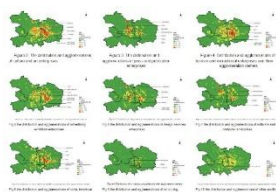


**Figure 4.1** Shanghai Creative Cluster (Heatmap)  
Source : He, J. L., & Gebhardt, H. (2014).



**Figure 4.2** Adaptive Reuse of Shanghai Creative Industry

The study by Qiu Ning, Li Ze, & Han Xinyu in Beijing states that the creative industry in the city has shown significant spatial physical clustering features where all creative industry sub-sectors have shown agglomeration centered on the urban core of Beijing city, consists of industrial parks and other facilities driven by adaptive reuse of existing buildings [3]. One of the supports for this trend is due to low space rental cost for creative activities and the location surrounded by city facilities because of its location in the city center.



**Figure 4.3** Beijing Creative Cluster  
(Heatmap, each subsector)  
Qiu Ning, Li Ze, & Han Xinyu. (2020)

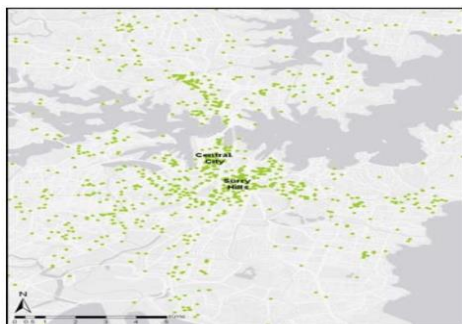


**Figure 4.4** Adaptive Reuse of Beijing Creative Industry

On a research conducted by Wood, S., & Dovey, K's, it is found that many old buildings observed for this study are considered important for various reasons, such as their historical and heritage value, for low rental costs, and flexible spatial design [2]. The mix of old and new buildings also creates significant differences in rental costs,



even though they are in the same city area. Therefore, there is a tendency for old buildings to be reused as creative building functions which are quite large in the case of Sydney and Melbourne.



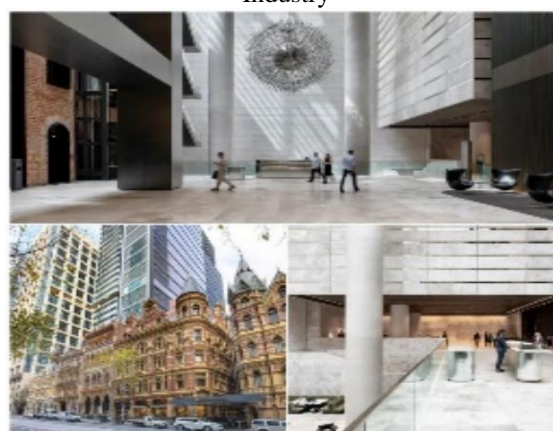
**Figure 4.5** Data Points of Sydney Creative Industry  
Source : Wood, S., & Dovey, K. (2015).



**Figure 4.6** Adaptive Reuse of Sydney Creative Industry

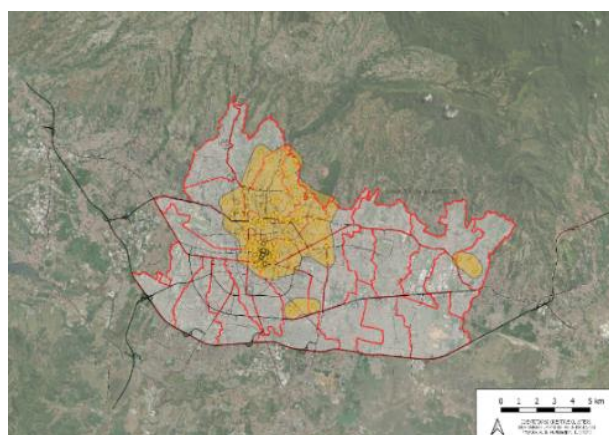


**Figure 4.7** Data Points of Melbourne Creative Industry. Source : Wood, S., & Dovey, K. (2015).

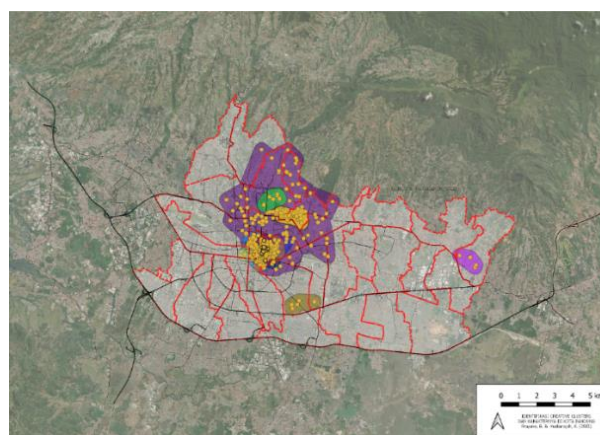


**Figure 4.8** Adaptive Reuse of Melbourne Creative Industry

Thus, the four cities above showed the relevancy of their creative cluster area with cultural heritage buildings is extremely high. This finding is also proven by data from the city of Bandung in which its character associated with high colonial values and cultural heritage buildings play an important role in the formation of creative clusters and their correlation with each other.



**Figure 4.9** Bandung Creative Cluster Map - Macro



**Figure 4.10** Bandung Creative Cluster Map - Meso (Subsector)



**Figure 4.11** Adaptive Reuse of Bandung Creative Industry

Finally, this research has put Bandung on the big canvas in relation to the existing creative cluster studies that were conducted in other big cities around the world.

## **V. CONCLUSIONS AND RECOMMENDATIONS**

The results of research on a macro scale identify a mega-cluster of creative industries in general in the city of Bandung, with agglomeration tendencies in the North Bandung area. On the meso scale of each creative sub-sector, thirteen creative clusters were identified in the city of Bandung. There are findings of spatial physical character relations in creative clusters at the macro and meso level in the city of Bandung with the cultural heritage building cluster. Meanwhile, at the macro level, it was found that 63% of the area of the cultural heritage building cluster was found with the creative megacluster in the city of Bandung and at the meso level, it was found that eleven out of thirteen creative clusters had more than 70% of the area of the cultural heritage building cluster. This research shows that there is a close relationship between the existence of creative clusters and cultural heritage building clusters in the city of Bandung, and this finding is in line with similar research that has been carried out in other case studies in creative cluster research in cities around the world. These findings can support providing development directions for practitioners/policy makers/investors so they can support the creative city of Bandung in the future.

Further research is needed related to the connectivity of the creative sub-sector with the concept of adaptive-reuse architecture, and the physical-spatial characteristics of the area to understand the typo-morphology of the buildings. The researcher also suggests suggestions for future researchers who will carry out further research from the initial study of creative clusters and city characters in the city of Bandung, which are as follows:

1. In order for future researchers to be able to obtain even more creative industry and activity data by using digital primary data from questionnaires and having geospatial data.
2. Researchers should be able to carry out spatial regression in order to be able to calculate the significance and connectedness of various spatial variables in research like this/similar.
3. Researchers should be able to approach creative actors and communities in the city of Bandung, with the aim of being able to facilitate understanding related to the creative climate in the city of Bandung.
4. Researchers are to be able to continue research at the district level, where it is proposed that it can be carried out based on macro and meso analysis in order to further explore the typomorphology of the creative cluster district.
5. Future researchers can also conduct similar research by conducting comparative studies with other creative cities in Indonesia, in order to be able to find the composition and look for relevant city characters to become catalysts for creative clusters in Indonesia; And,
6. A multidisciplinary team is needed in order to be able to interpret the data in a more comprehensive manner

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