



## PERSPECTIVE OF CREDIT IN MICROBUSINESSES

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### Abstract

*Although there are studies on the characterization of finance in microbusinesses, there is a need to know if there is an interest in acquiring credit for their business and a lack of knowledge regarding the purpose of acquiring credit. The purpose of this study was to determine the interest and use of credit in microenterprises. A total of 4822 microentrepreneurs from various municipalities in the country participated. They completed an online survey divided into sections such as characterization, innovation, operation and organization, business model, financial and accounting, marketing and commercialization, and formalization, and a unidirectional circular anova was run to statistically justify this observation. The results show that there is a degree of interest in acquiring inputs, taking advantage of low interest rates, generating a temporary investment to take advantage of economic cycles, implementation of information technology (IT) strategies, financial urgencies at the moment, payroll payments, making payments to suppliers, investment in infrastructure and payments of other obligations, the analysis of the circular tests of multiple samples the Watson-Wheeler test which is a unidirectional non-parametric ANOVA on circular data. It showed that the data points in the middle direction and its length is a measure of data concentration in fact shows a significant factor result around the financial and accounting. It is concluded that for the microentrepreneur there is a strong tendency in the middle direction of generating a temporary investment to take advantage of economic cycles and payroll payments; and its length to payroll payment and taking advantage of low interest rates.*

**Keywords:** *Microbusiness, financial and accounting, one-way circular anova.*

### INTRODUCTION

Micro and small businesses are an important source of employment in underdeveloped economies, they function as mitigating agents of the economic effects of major crises. However, one of the most marked limitations that prevents them from growing and developing is limited access to financing. (Romero Borre, 2022). SMEs play a fundamental role in the economies of Latin American countries, because as they are a significant source of employment, they can act as buffers against negative economic impacts. Traditionally, credit associations have been classified as cooperative regional financial institutions serving small and medium-sized enterprises (SMEs) and residents that were not served by private equity banks. (Yamori & Harimaya, 2009). The main objective of financial institutions is to maximize their profits, which is why they are providing credit to microbusinesses. Financial knowledge is the ability to master basic economic knowledge and financial concepts, as well as the ability to use knowledge to manage and allocate financial resources. (Li et al, 2023). For



this reason, many microentrepreneurs don't see access to credit as a tool for the growth of their business, which is why it is relevant to have a perspective on the behavior of credit in microbusinesses. The problem of the ability of SMEs to obtain financing is an issue that most researchers have been considering for some time. (Asiedu et al., 2022). Likewise, although there are many professors who have investigated this topic at different universities, studies dealing with the demand factors for credits are very few. Although there may be a degree of interest in acquiring a loan, especially when interest rates drop, microentrepreneurs also have a degree of uncertainty about not being able to pay those loans and ending up losing their business. Another barrier for SMEs to access bank loans is the guarantees required by banks. (Laitón Ángel and López Lozano, 2018). Better capitalized banks with low-risk indicators and stable sources of financing tend to offer more credit during periods of high overall liquidity, while universal model banks take less advantage of high liquidity conditions and increase their credit supply to a lesser degree. (Cantú et al., 2022). In a way, according to the above, the bank's decision to provide more credit to the public does not depend to a large degree on them or on the financial position, everything depends on risk management, although there are banks that, despite all this, tend to have caution when offering credits.

The main determinant of a bank's net interest margin is the credit granting to companies. (Modina et al., 2023), therefore, the bank earns through the interest it obtains in this case on the loans it would make to microentrepreneurs, it is simply taking care of managing the credit risk, finally, it will obtain higher profits. It plays an important role for SMEs in improving financing efficiency, expanding financing channels and reducing financing costs. (Jiang & Ruan, 2023), so it turns out that credit is essential for microentrepreneurs because they can improve financing sources and thus reduce the costs generated from that financing. Microentrepreneurs who cannot obtain funds from banks and other traditional sources of external funds have to rely more on internal funds for their investments. (Hartarska & Nadolnyak, 2008), undoubtedly, if microentrepreneurs face difficulties when obtaining credit, they will be forced to use their own capital to finance their investments. After the financial reforms of the 1990s, bank credit became the main form of financing for Latin America. (Díaz España, 2014), although bank credit is an important component in the Latin American economy, its contribution to GDP is lower compared to that of East Asia and Europe, thus in relative terms, bank credit had a significantly lower influence on the countries of the Latin American region. Although microenterprises are very small businesses, they have very substantial benefits for the growth of economies, employment and income generation. (Civelek et al., 2019), therefore, microenterprises are very small companies, but they have a great impact on economic growth, in addition to creating employment, which is why bank credit should be promoted by providing facilities for this type of business.

Another concept about why there may be a decrease in credit requests by microentrepreneurs is: the following:

A reduction in the supply of loans could have been due to the greater perception of risk in the economy by the financial system after the crisis and a decline in loan demand could have occurred due to an explicit policy of deleveraging by firms and households. (Betancourt et al., 2008, pp. 29-58).

From the above it can be inferred that these two reasons suggest why the demand for credits may be affected, which ultimately affects the country's economy. Microbusinesses play a significant role in the Colombian economy because they contribute to the generation of employment and the economic growth of the country, which is why the banking sector has been giving importance to microbusinesses. As large companies turn to financial markets in recent years, banks are increasingly focusing on SMEs and the retail market. Finally, the economic growth that occurs in a country ends up stimulating requests for bank credit. Furthermore, as indicated by Tafur Salden, (2009), in Latin America, bank credit is the main source of financing for the productive apparatus.

As the capital markets do not present a significant development, the alternative of bonds as a source. (Pages 13-37). Colombia is a middle-income country, where the informal sector expands throughout its geography and industries, including monetary financing. (Salcedo-Pérez and Patiño, 2017).



According to this, in Colombia according to DANE, microbusinesses occupy a large percentage of the economy, and in the second quarter of 2023, the number of microbusinesses increased 9.6% compared to the same period in 2022, this is due to the expansion of the informal sector, and that is why monetary financing is also growing. The economic growth of a country is an element that stimulates families and firms to use credit sources, this has been evidenced in the increase in the gross portfolio in the Colombian economy during the period 2006-2019. (Castellano Montiel and Gómez Alemán, Y. M., 2022). Likewise, when a country experiences economic growth, microentrepreneurs are the first to lean towards using credit sources, such as bank loans. A greater market concentration is taken advantage of by banks to raise interest rates on loans, which induces entrepreneurs to take more risks to make their projects viable. (Torres & Castaño, 2020).

**METHODOLOGY**

The methodology used for this study is quantitative and correlational to determine the interest and use of credit in microbusinesses. For this, 4,822 microbusinesses from various municipalities in the country participated. They completed an online survey divided into sections such as characterization, innovation, operation and organization, business model, financial and accounting, marketing and commercialization and formalization. To statistically justify this observation, a one-way circular anova was executed. As expressed by Losada & Arnau (2000), when the data are quantitative, the tests on biases between observers and measures of agreements between them are obtained from the standard mixed ANOVA model or through random models. For these cases, intraclass correlation is the most used reliability index. That is, when you have several observers and you want to know their reliability, the Berck (1979) intraclass coefficient is usually used, which detects the agreement and systematic error of some observers with respect to others. There are numerous versions of intraclass correlation, and for each specific situation there is an appropriate form, although conceptually they all focus on the study of reliability. When the data are categorical, or when the response variable is classified according to a nominal or multinomial scale, a measure of interobserver agreement, similar to intraclass correlation, is Cohen's (1960) Kappa index. This communication proposes the study of reliability between observers using the Kappa index with the ANOVA procedure. If it is verified that there is no bias, the application of a one-dimensional ANOVA is sufficient to estimate the coefficient. If, on the other hand, there is bias between observers, the two-dimensional random effects ANOVA or the two-dimensional mixed model should be considered as alternatives.

**RESULTS**

According to the characteristics of the microentrepreneur participants of the study in the financial and accounting factor, there were 4,822 participants for whom the database was cleaned, and an analysis was carried out with JASP Team (2022). JASP (Version 0.16.3) [Computer software].

| Estrato | Sexo |      |      |     |    |   |
|---------|------|------|------|-----|----|---|
|         | 1    | 2    | 3    | 4   | 5  | 6 |
| Válido  | 1118 | 2202 | 1325 | 153 | 18 | 6 |

Stratum one (1), female sex, eight hundred and eighteen (818) people, that is, seventy-three point one hundred and sixty-six percent (73,166%); of stratum one (1), male sex, three hundred (300) people, that is, twenty-six point eight hundred thirty-four percent (26,834%) of a total of one thousand one hundred eighteen (1118) microentrepreneurs. Stratum two (2), female sex, one thousand five hundred fifty (1550) people that is seventy point three hundred ninety one percent (70.391%); of stratum two (2), male sex, six hundred fifty-two (652) people, that is, twenty-nine point six hundred nine percent (29,609%) of a total of two thousand two hundred two (2202) microentrepreneurs. Stratum three (3), female, eight hundred ninety-five (895) people, that is, sixty-seven point five hundred and forty-seven percent (67,547%); of stratum three (3) male sex four hundred thirty (430) people, that is, thirty-two point four hundred and fifty-three percent (32,453%)

of a total of one thousand three hundred and twenty-five (1,325) microentrepreneurs. Stratum four (4), female sex, one hundred (100) people, that is, sixty-five point three hundred and fifty-nine percent (65.359%); of stratum four (4), male sex, fifty-three (53) people, that is, thirty-four point six hundred and forty-one percent (34,641%) of a total of one hundred and fifty-three (153) microentrepreneurs. Stratum five (5), female sex, eleven (11) people, that is, sixty-one point one hundred and eleven percent (61,111%); of stratum five (5), male sex, seven (7) people, that is, thirty-eight point eight hundred and eighty-nine percent (38,889%) of a total of eighteen (18) microentrepreneurs. Stratum six (6) female sex three (3) people that is fifty percent (50%); of stratum six (6), male sex. three (3) people, that is, fifty percent (50%) of a total of six (6) microentrepreneurs. Of the female sex, there are three thousand three hundred and seventy-seven (3377) people, that is, seventy percent (70%) are microentrepreneurs, and of the male sex, there are one thousand four hundred and forty-five (1445) people, that is, thirty (30%) are microentrepreneurs. Next, analysis of the descriptive statistics of the financial and accounting factor between the question: Are you interested in acquiring credit for your business? and why do you want to acquire credit for your business? of which the records were validated.

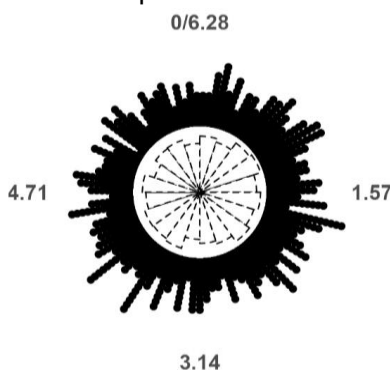
Table 1  
Descriptive statistics of the validated records.

| ¿Está interesado en adquirir crédito para su negocio? |     |    |                                                                                                                  |                                                                    |                                                       |                  |                              |                              |                             |
|-------------------------------------------------------|-----|----|------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|-------------------------------------------------------|------------------|------------------------------|------------------------------|-----------------------------|
|                                                       |     |    | Generar una inversión temporal para aprovechar los ciclos económicos (ejemplo: inversiones por épocas navideñas) | Implementación de estrategias de tecnología de la información (TI) | Las urgencias financieras que se tienen en el momento | Pagos de nóminas | Realizar pagos a proveedores | inversión en infraestructura | pagos de otras obligaciones |
| Válido                                                | 801 | 57 | 242                                                                                                              | 52                                                                 | 47                                                    | 7                | 26                           | 510                          | 33                          |

Nota. Se excluyeron 3047 filas del análisis que corresponden a los valores faltantes de la variable de división de la pregunta ¿Para qué quiere adquirir un crédito para su negocio?

As a result, fourteen (14) people were not interested in the acquisition of inputs, that is, one point seven hundred and forty-eight percent (1,748%); If seven hundred and eighty-seven (787) people are interested, that is, ninety-eight point two hundred and fifty-two percent (98.252%).

Figure 1. Acquisition of inputs with the Watson-Wheeler test.



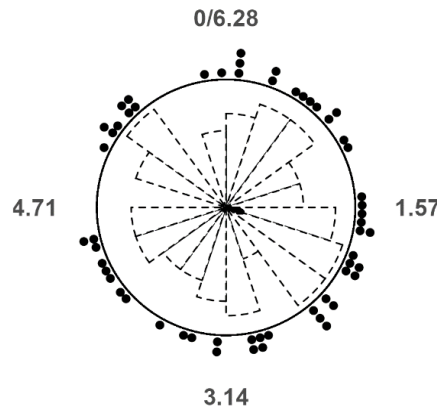
Fuente: Elaboración propia con JASP Team (2022). JASP (Versión 0.16.3) [Computer software].



Note. Values are calculated over a normalized period of  $2\pi$ .

In the analysis of multiple sample circular tests the Watson-Wheeler test which is a one-way non-parametric ANOVA on circular data in the circular description valid data eight hundred and one (801); missing three thousand forty-seven (3047); middle address one point nine hundred eleven (1,911); resulting mean length zero point zero forty-four (0.044); median two point zero sixty-eight (2,068); standard deviation two point four hundred ninety-nine (2.499); variance zero point nine hundred fifty-six (0.956); rank six point two hundred thirty-one (6,231). Note. Unless otherwise stated, all values are calculated over a normalized period of  $2\pi$ . Three (3) people, that is, five point two hundred and sixty-three percent (5.263%) are not interested in taking advantage of low interest rates; If fifty-four (54) people are interested, that is, ninety-four point seven hundred and thirty-seven percent (94.737%).

Figure 2. Taking advantage of low interest rates with the Watson-Wheeler test.

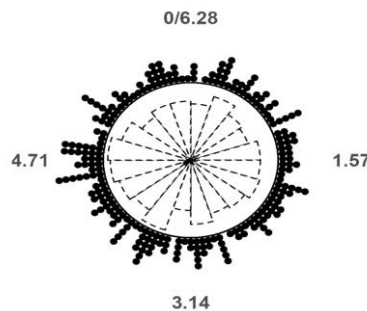


Fuente: Elaboración propia con JASP Team (2022). JASP (Versión 0.16.3) [Computer software].

Note. Values are calculated over a normalized period of  $2\pi$ .

In the analysis of multiple sample circular tests the Watson-Wheeler test which is a one-way non-parametric ANOVA on circular data in the circular description valid data fifty-seven (57); missing three thousand forty-seven (3047); middle address one point eight hundred forty-eight (1,848); resulting mean length zero point one hundred thirty (0.130); median one point seven hundred fifty-eight (1,758); standard deviation two point zero twenty-one (2.021); variance zero point eight hundred and seventy (0.870); rank five point six hundred eleven (5,611). All values are calculated over a normalized period of  $2\pi$ . For the microentrepreneur, generating a temporary investment to take advantage of economic cycles (example: investments during Christmas times) is not of interest to three (3) people, that is, one point two hundred and forty percent (1,240%); If two hundred and thirty-nine (239) people are interested, that is, ninety-eight point seven hundred and sixty percent (98.760%).

Figure 3. Generate a temporary investment to take advantage of economic cycles (example: Christmas season investments) with the Watson-Wheeler test.



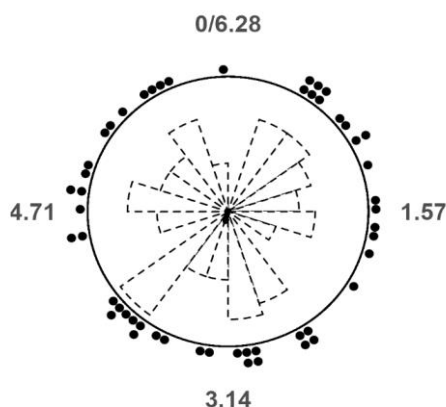
Fuente: Elaboración propia con JASP Team (2022). JASP (Versión 0.16.3) [Computer software].



*Note. Values are calculated over a normalized period of  $2\pi$ .*

In the analysis of multiple sample circular tests the Watson-Wheeler test which is a one-way non-parametric ANOVA on circular data in the circular description valid data two hundred and forty-two (242); missing three thousand forty-seven (3047); middle address four point one hundred fifty-seven (4,157); resulting mean length zero point zero seventy-three (0.073); median four point three hundred fifteen (4,315); standard deviation two point two hundred ninety (2,290); median four point three hundred fifteen (4,315); standard deviation two point two hundred ninety (2,290); variance zero point nine hundred twenty-seven (0.927); rank six point one hundred twenty-four (6,124). Unless otherwise stated, all values are calculated over a normalized period of  $2\pi$ . For the microentrepreneur in the implementation of information technology (IT) strategies, zero (0) people are not interested, that is, zero percent (0.00%); If fifty-two (52) people are interested, that is, one hundred percent (100.00%).

Figure 4. Implementation of information technology (IT) strategies with the Watson-Wheeler test.

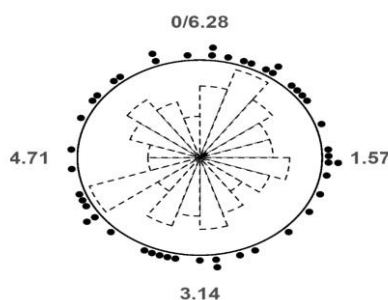


Fuente: Elaboración propia con JASP Team (2022). JASP (Versión 0.16.3) [Computer software].

*Note. Values are calculated over a normalized period of  $2\pi$ .*

In the analysis of multiple sample circular tests the Watson-Wheeler test which is a one-way non-parametric ANOVA on circular data in the circular description valid data fifty-two (52); missing three thousand forty-seven (3047); middle address three point three hundred ninety-nine (3,399); resulting mean length zero point zero seventy-seven (0.077); median three point zero twenty three (3,023); standard deviation two point two hundred sixty-two (2.262); variance zero point nine hundred twenty three (0.923); rank five point seven hundred and seventeen (5,717). Unless otherwise stated, all values are calculated over a normalized period of  $2\pi$ . In the financial emergencies that exist at the moment, two (2) people are not interested, that is, four point two hundred and fifty-five percent (4.255%); If forty-five (45) people are interested, that is, ninety-five point seven hundred and forty-five percent (95.745%).

Figure 5. The financial emergencies that one has at the moment with the Watson-Wheeler test.



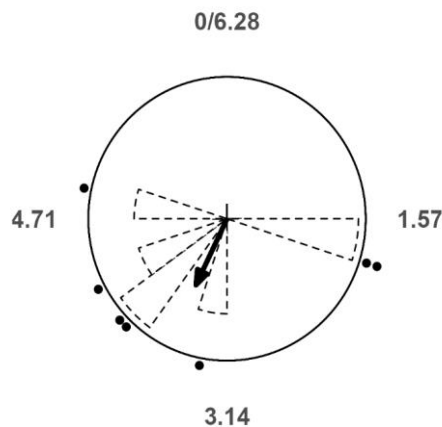
Fuente: Elaboración propia con JASP Team (2022). JASP (Versión 0.16.3) [Computer software].



*Note. Values are calculated over a normalized period of  $2\pi$ .*

In the analysis of multiple sample circular tests the Watson-Wheeler test which is a one-way non-parametric ANOVA on circular data in the circular description valid data forty-seven (47); missing three thousand forty-seven (3047); mean address zero point nine hundred four (0.904); resulting mean length zero point zero fifty-seven (0.057); median zero point six hundred twenty-five (0.625); standard deviation two point three hundred ninety-four (2.394); variance zero point nine hundred forty-three (0.943); rank five point nine hundred twenty (5,920). Unless otherwise stated, all values are calculated over a normalized period of  $2\pi$ . In payroll payments, zero (0) person is not interested, that is, zero-point zero percent (0.00%); If seven (7) people are interested, that is, one hundred percent (100.00%).

Figure 6. Payroll payments with the Watson-Wheeler test.

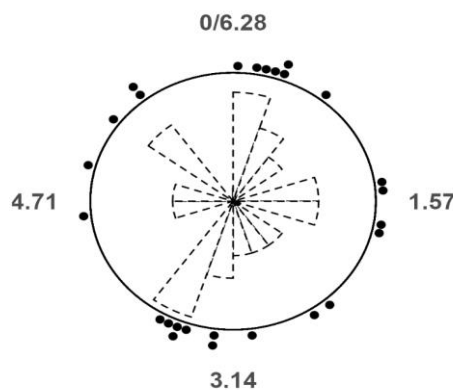


Fuente: Elaboración propia con JASP Team (2022). JASP (Versión 0.16.3) [Computer software].

*Note. Values are calculated over a normalized period of  $2\pi$ .*

In the analysis of multiple sample circular tests the Watson-Wheeler test which is a one-way non-parametric ANOVA on circular data in the circular description valid data seven (7); missing three thousand forty-seven (3047); middle address three point five hundred ninety (3,590); resulting mean length zero point five hundred seventeen (0.517); median three point nine hundred seventeen (3,917); standard deviation one point one hundred forty-eight (1.148); variance zero point four hundred eighty-three (0.483); range three point zero fifty-four (3,054). Unless otherwise stated, all values are calculated over a normalized period of  $2\pi$ . In making payments to suppliers, one (1) person is not interested, that is, three point eight hundred and forty-six percent (3,846%); If twenty-five (25) people are interested, that is, ninety-six point one hundred and fifty-four percent (96.154%).

Figure 7. Payroll payments with the Watson-Wheeler test.

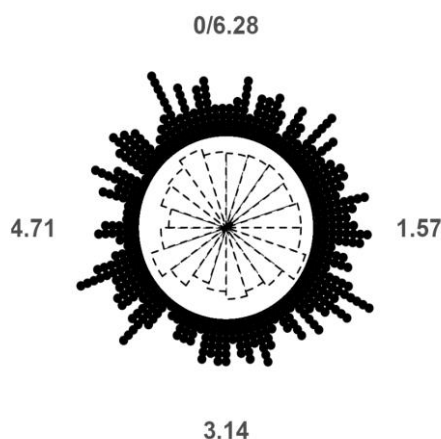




Fuente: Elaboración propia con JASP Team (2022). JASP (Versión 0.16.3) [Computer software].  
 Note. Values are calculated over a normalized period of  $2\pi$ .

In the analysis of multiple sample circular tests the Watson-Wheeler test which is a one-way non-parametric ANOVA on circular data in the circular description valid data twenty six (26); missing three thousand forty-seven (3047); middle address two point zero sixty-four (2,064); resulting mean length zero point zero thirty-nine (0.039); median one point four hundred eighty-three (1,483); standard deviation two point five hundred forty-five (2.545); zero variance point nine hundred and sixty-one (0.961); rank five point three hundred one (5,301). All values are calculated over a normalized period of  $2\pi$ . Three (3) people are not interested in investing in infrastructure, that is, zero point five hundred and eighty-eight percent (0.588%); If five hundred seven (507) people are interested, that is, ninety-nine point four hundred twelve percent (99.412%).

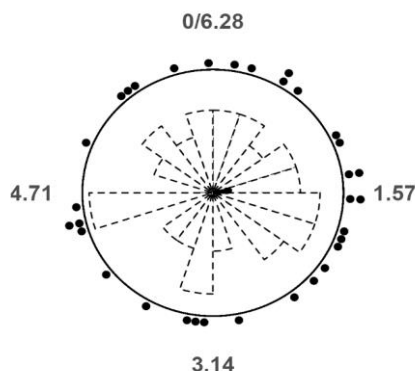
Figure 8. Payroll payments with the Watson-Wheeler test.



Fuente: Elaboración propia con JASP Team (2022). JASP (Versión 0.16.3) [Computer software].  
 Note. Values are calculated over a normalized period of  $2\pi$ .

In the analysis of multiple sample circular tests the Watson-Wheeler test which is a one-way non-parametric ANOVA on circular data in the circular description, valid data five hundred and ten (510); missing three thousand forty-seven (3047); mean direction zero point nine hundred and forty (0.940); resulting mean length zero point zero sixty-one (0.061); median zero point six hundred sixteen (0.616); standard deviation two point three hundred sixty-four (2.364); variance zero point nine hundred thirty-nine (0.939); rank six point two hundred thirteen (6,213). Unless otherwise stated, all values are calculated over a normalized period of  $2\pi$ . In payments of other obligations, they are not interested in one (1) person, that is, three-point zero thirty percent (3,030%); If thirty-two (32) people are interested, that is, ninety-six point nine hundred and seventy percent (96.970%).

Figure 9. Payroll payments with the Watson-Wheeler test.



Fuente: Elaboración propia con JASP Team (2022). JASP (Versión 0.16.3) [Computer software].




Note. Values are calculated over a normalized period of  $2\pi$ .

In the analysis of circular multiple sample tests, the Watson-Wheeler test, which is a one-way non-parametric ANOVA on circular data in the circular data description, is valid for thirty-three (33); missing three thousand forty-seven (3047); middle address one point four hundred twenty-four (1,424); resulting mean length zero point one hundred thirty (0.130); median one point six hundred thirty-four (1,634); standard deviation two point zero twenty (2.020); variance zero point eight hundred and seventy (0.870); rank five point seven hundred thirty-five (5,735). Unless otherwise stated, all values are calculated over a normalized period of  $2\pi$ .

It can be seen that the data points in the average downward direction of generating a temporary investment to take advantage of economic cycles (example: investments during the Christmas season) with four point one hundred fifty-seven (4,157) followed by payroll payment with three point five hundred ninety (3,590); implementation of information technology (IT) strategies with three point three hundred ninety (3,390); make payments to suppliers two point zero sixty-four (2,064); acquisition of inputs with one point nine hundred eleven (1,911); take advantage of low interest rates one point eight hundred forty-eight (1,848); payments of other obligations one point four hundred twenty-four (1,424); and investment in infrastructure with zero point nine hundred and forty (0.940); the financial emergencies that exist at the moment with zero point nine hundred four (0.904).

Table 2  
Circular multiple sample tests

|                                                                      | Test          | p            | $\alpha$ | Critical | Statistic |
|----------------------------------------------------------------------|---------------|--------------|----------|----------|-----------|
| Adquisición de insumos                                               | Rao's spacing | <sup>a</sup> | 0.010    | 139.600  | 130.831   |
|                                                                      | Rayleigh      | 0.211        |          |          | 0.044     |
|                                                                      | V against 180 | 0.837        |          |          | -0.025    |
| Aprovechar las bajas tasas de interés                                | Rao's spacing | <sup>a</sup> | 0.010    | 160.530  | 152.506   |
|                                                                      | Rayleigh      | 0.384        |          |          | 0.130     |
|                                                                      | V against 180 | 0.799        |          |          | -0.079    |
| Generar una inversión temporal para aprovechar los ciclos económicos | Rao's spacing | <sup>a</sup> | 0.010    | 146.670  | 129.035   |
|                                                                      | Rayleigh      | 0.279        |          |          | 0.073     |
|                                                                      | V against 180 | 0.056        |          |          | 0.072     |
| Implementación de estrategias de tecnología de la información (TI)   | Rao's spacing | <sup>a</sup> | 0.010    | 160.530  | 145.236   |
|                                                                      | Rayleigh      | 0.732        |          |          | 0.077     |
|                                                                      | V against 180 | 0.269        |          |          | 0.061     |
| Las urgencias financieras que se tienen en el momento                | Rao's spacing | <sup>a</sup> | 0.010    | 162.000  | 110.362   |
|                                                                      | Rayleigh      | 0.860        |          |          | 0.057     |
|                                                                      | V against 180 | 0.709        |          |          | -0.057    |



|                              |               |              |           |             |             |
|------------------------------|---------------|--------------|-----------|-------------|-------------|
| Pagos de nómina              | Rao's spacing | <sup>a</sup> | 0.01<br>0 | 202.5<br>50 | 165.8<br>32 |
|                              | Rayleigh      |              |           |             | 0.517       |
|                              | V against 180 |              | 0.15<br>5 |             | 0.459       |
| Realizar pagos a proveedores | Rao's spacing | <sup>a</sup> | 0.01<br>0 | 170.9<br>20 | 156.6<br>27 |
|                              | Rayleigh      |              |           |             | 0.039       |
|                              | V against 180 |              | 0.96<br>2 |             | -0.017      |
| inversión en infraestructura | Rao's spacing | <sup>a</sup> | 0.01<br>0 | 141.4<br>80 | 133.9<br>60 |
|                              | Rayleigh      |              |           |             | 0.061       |
|                              | V against 180 |              | 0.54<br>7 |             | -0.061      |
| pagos de otras obligaciones  | Rao's spacing | <sup>a</sup> | 0.01<br>0 | 165.8<br>10 | 110.4<br>62 |
|                              | Rayleigh      |              |           |             | 0.130       |
|                              | V against 180 |              | 0.97<br>5 |             | -0.114      |

Nota. Todas las estadísticas se calculan sobre un período normalizado de  $2\pi$ .

Based on the Rayleigh test where its resulting average length is a measure of the concentration of data in descending form, it is with payroll with zero point five hundred seventeen (0.517); take advantage of low interest rates with zero point one hundred thirty (0.130); payments of other obligations zero point one hundred thirty (0.130); Implementation of information technology (IT) strategies zero point zero seventy-seven (0.077), generate a temporary investment to take advantage of economic cycles (example: investments for Christmas seasons) with zero point zero seventy-three (0.073); investment in infrastructure zero point zero sixty-one (0.061); the financial emergencies that you have at the moment with zero point zero fifty-seven (0.057); acquisition of inputs with zero point zero forty-four (0.044) and making payments to suppliers with zero point zero thirty-nine (0.039).

### CONCLUSIONS

The study determines the interest and use of credit in microbusinesses where a high number of microbusinesses from various municipalities of the country participated and a trend is seen in the number of female than male sex microentrepreneurs according to the stratum where in the stratum one of female sex there is a greater tendency of microentrepreneurs than in stratum one of male sex, in stratum two of female sex there is a greater tendency than of male sex; In stratum three of female sex the number is greater than in stratum three of male sex; in stratum four of the female sex it is greater than in stratum four of the male sex; In stratum five, the number of female microentrepreneurs is greater than male sex; and in stratum six the female sex is the same as the male sex.


It was determined that there is a high interest in requesting a loan by microentrepreneurs from several municipalities in the country. Through the survey, factors such as characterization, innovation, operation and organization, business, financial and accounting model, marketing and commercialization and formalization are observed to gives a vision to analyze microentrepreneurs

in Colombia, through descriptive statistics of the financial and accounting factor of the questions: are you interested in acquiring credit for your business? And why do you want to acquire credit for your business? And for the microentrepreneur, there is a trend in the use of credit such as the acquisition of inputs, taking advantage of low interest rates, generating a temporary investment to take advantage of economic cycles (example: investments during the Christmas season), implementation of information technology strategies (IT), the financial emergencies that you have at the moment, payroll payments, making payments to suppliers, investment in infrastructure, payments of other obligations.

With the analysis of circular multiple sample tests the Watson-Wheeler test which is a one-way non-parametric ANOVA on circular data and the visualization of directional data with circular diagrams with the Rayleigh test can help to have a first impression of the problem where the data points in the middle direction that indicates that microentrepreneurs look for a temporary investment to take advantage of economic cycles (example: investments during the Christmas season) followed by payroll payment and the implementation of information technology (IT) strategies; and its average length resulting from the concentration of data on microentrepreneurs is paying payroll, taking advantage of low interest rates, and paying other obligations.

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