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Do Spiritual, Managerial and Technological Treatment
Improve Islamic Micro Entrepreneur's Behavior and
Business Performance
(A pilot project for Islamic Microfinance Clients in
Indonesia)

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Abstract:

This research attempts to find an appropriate scheme for improving SME's business behavior and performance based on the characteristics of Indonesian Muslims. Spiritual, managerial and technological treatments are expected to be able to improve micro entrepreneur behavior and business performance and ensure the high repayment rate to the financial institutions at the end. The basic assumption of this research is that the power of spirituality, managerial skill and utilized technology can be applied for ensuring high repayment rate. The linkage of these treatments can reduce banking risk, build trust and, at the end, be expected to remove the power of collateral in Islamic microfinance institutions. 162 Islamic MFI's clients from 13 Islamic financial institutions were involved in this research. The respondents were divided into four clusters, i.e., cluster A (three treatments), cluster B (two treatments), cluster C (one treatment only), and cluster D (no treatment). Based on Friedman Test and Kruskal-Wallis Test, Cluster A which received three treatments shows the higher significant changes in behavior and business performance than does cluster B which received two treatments and cluster C which received only one treatment respectively. Cluster B shows more significant changes in behavior and business performance than does cluster C and D. Cluster C also shows the better changes in behavior and business performance than does cluster D which did not get any treatments at all as a controller cluster. In brief, a combination of spiritual dimension, managerial skills and utilized technology can improve micro-entrepreneur's behavior and business performance and also reduce banking risks at the end.

Key words: the microfinance risks, spiritual, managerial, technological treatments

1. INTRODUCTION

Twenty years after its establishment, total assets of Islamic banking in Indonesia has been still far from its potency. Too many factors are dynamically involved with great complexity of Islamic banking and finance system. After Asian crisis 1997 whereas big corporations went bankrupt and a massive collapse of banking systems, particularly conventional banking and finance, Islamic banking showed the robustness of its system survival capacity, and no need a government bailout package at all. At the same time, medium, small and micro enterprises (MSMEs) also showed their tenacity amid 1997 financial crisis and have became pillars of Indonesian economy nowadays. Indonesian government responded the situation with regulate many regulations to support MSMEs as the real sectors and Islamic banking and finance as the financial sectors. In addition to be the largest Muslim population in the world, Indonesia has high demands for Islamic banking and Islamic microfinance especially after 'Ulama Council of Indonesia (*Majelis Ulama Indonesia* – MUI) launched a Fatwa regarding prohibition of *riba*.

In order to support small and micro entreprenuer, Bank Indonesia collaborated with Laboratory of Management, Faculty of Economy (LMFE), Universitas Padjadjaran conducted a pilot project "Linkage Program for Islamic micro-entrepreneurs". The objective of this project is to produce an appropriate linkage model which suits with the SME's entrepreneur's characteristics and the Islamic MFIs² mechanism in order to increase the capability of Indonesian micro entrepreneurs. The project was a combination of treatments and research. Research was conducted to test the results of three treatments, spiritual, managerial and

.

² Especially Islamic Rural Bank type of MFIs (Bank Pembiayaan Rakyat Syariah - BPRS). In Indonesia, there are several types of MFIs, such as BPRS, BMT (Baitul Mal wa Tamwil – a cooperative based financial institution), Zakah Fund Institutions and a few more.

technological. The other hand, treatments are given to Islamic MFI's clients³ as an alternative way to boost their business performance and commitment to pay the loan on time.

2. RESEARCH FRAMEWORK

Figure 1 shows the treatments for MFI's clients. Spiritual treatment (ST) for Islamic MFI's clients are expected to stimulate and enhance their integrity and commitment to their own business, business partners and MFI's intitutions. Briefly, spiritual treatment can minimize agency problem in Islamic MFI. Meanwhile, technical treatments, managerial and technological, are also considered as important skills to run their daily business. Managerial treatment (MT) are expected to make their business viable through the management skills, at least four management functions such as personnel, marketing, financial, and operation management. Through technological treatment (TT), MFI's clients are expected to be familiar with information technology, technology's tools and also be an active user of technology in the production process and services. Being efficient and effective are key words which should be deeply embedded in every entrepreneur's mind.

Impact of treatments were tested and compared to each cluster. We devided participants into four clusters, A, B, C and D.

- Cluster A (42 participants) received 3 treatments: ST, MT and TT
- Cluster B (40 participants) received 2 treatments: MT and TT
- Cluster C (40 participants) received 1 treatments : ST
- Cluster D (40 participants) received none. Cluster D is called a Control Cluster.

Technology

Spiritual

Management

production
function

Agency
problem

feasibility

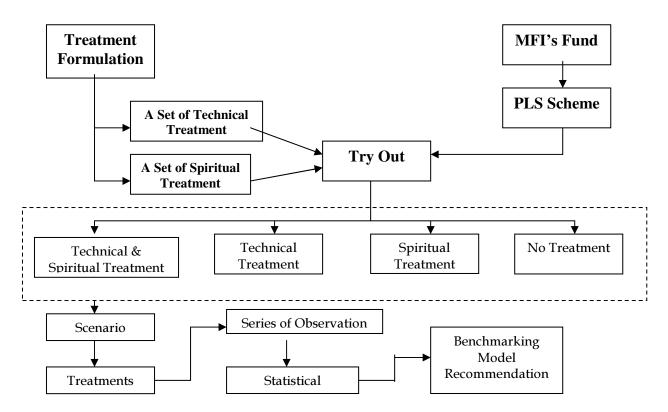
viability

Management
function

Figure 1
Treatments for Microentrepreneurs

³ BPRS's clients (debtors) represented as MSMEs entrepreneurs

Figure 2 A Research Framework



Sources: DPbS - Bank Indonesia (2006)

Series of observation were conducted to see the impact of treatments and also verified by statistic measurements. Based on statistical's measurement, we can benchmark the result of the comparisons of each cluster's and then analyze the purposes of model.

2.1 Aims and Objectives of Treatments

Spiritual Treatment (ST)

As general, the aim of spiritual treatment is to build the microentrepreneur's characters which has an Islamic value's integrity in daily life activities in order to create high commitment to pay the loan.

The particular objectives of spiritual treatment are as follows:

- 1. To grow the entrepreneur's senses, spirits and characters through spiritual approach.
- 2. To develop entrepreneur's attitude through psycho-religious way.
- 3. To study the impact of spiritual treatments on clients' personality and attitude of entrepreneurships.

Managerial Treatment (MT)

As general, the aim of managerial treatment is to develop and enhance clients' knowledge and skills of managerial in order to have high competitive advantages, the efficiency and effectiveness of working process, proper entrepreneurs's characters and consistency of business profit.

The particular objectives of managerial treatment are the following:

- 1. To increase clients' skills and knowledge of managerial.
- 2. To help them in solving managerial problem

3. To study the impact of managerial treatments on clients' skills, knowledge of entrepreneurships and managerial's problem solving.

Technological Treatment (TT)

As general, the aim of technological treatment is to improve the microentrepreneur's quality of production process and services in order to create and produce high quality and marketable of product and services through the efficient and effective technology.

The particular objectives of technological treatment are as follows:

- 1. To help clients in choosing and using the efficient and effective technology to produce the high quality and marketable products-and-services which suits with their business.
- 2. To stimulate the inovation ideas and problem solving capability.
- 3. To study the impact of technological treatments on clients' quality of product and services.

3. CONCEPTS OF TREATMENTS

3.1 Spiritual

Spiritual treatment has a basic concept in the Qur'an as follows:

- One of the two women said, "Dear father, hire him; the best man you can hire is someone who is strong, trustworthy. [Al Qashash (28): 26]
- Regarding the clients obligations to fulfill the contract in a business transaction, there is a verse in Al-Qur'an:
- o you who believe! Fulfill (your) obligations. Lawful to you (for food) are all the beasts of cattle except that which will be announced to you (herein), game (also) being unlawful when you assume *Ihrâm* for *Hajj* or *'Umrah* (pilgrimage). Verily, *Allâh* commands that which He wills. QS 5:1

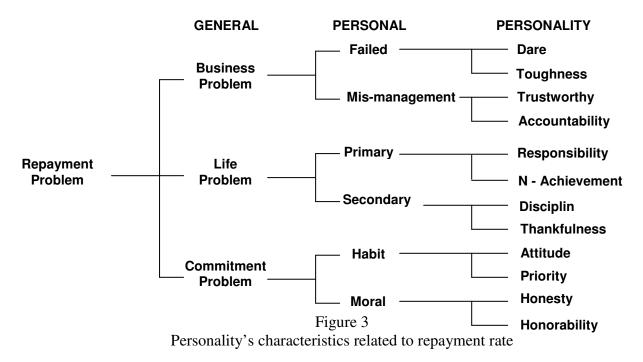
This verse can be interpreted that entrepreneur's mentality is constructed by two basic characters: 'competence and commitment'. Competence is achieved through skills improvement and commitment is built through spiritual and psycho-religious's approach. Spiritual treatment is an attempt to improve the value and meaning of MFIs clients' life towards awareness of their competency and commitment for their obligations to God and human being.

Spirituality, morality and rituality are the key words in spiritual treatment. Spirituality deals with meaning and values of life. Meaning of life is the comprehension of life and how to make a life useful. Values are the beliefs about what is right and wrong and what is most important in life which control one's behaviour. Morality is a social set of standard for good or bad character and behaviour. In Islamic perspective morality is *akhlak of Muslims*. The root word of *akhlak* came from word *khalaqa – yakhluqu* which means human being action under God's permission. Rituality is physical ritual such as prayers, giving *zakah* and *shadaqah*. Understanding the meaning of religious ritual and enable to implement the spirit and its instinsic values in daily life is the goal of this activity.

3.1.1 Relation between Spiritual and Repayment Rate Problems

Repayment rate is the capability of MFI's clients to pay the loan. Problems of business, life and commitment are personal factors which are highly related with spiritual aspect and

repayment rate (see in Figure 3 below).



3.2 Technical Assistances: Managerial & Technological

Microentrepreneus and Islamic MFIs are mutually beneficial partners. Ideally, Islamic MFIs provide technical assistance for its clients who need it to improve their business performances due to the success/failures of clients' business is part of MFI's performance as well, in particularly on profit-loss sharing (*mudharabah/musyarakah* contracts). Regular managerial training and assistances can be provided by Islamic MFI to those who are in need.

Managerial treatment has a basic concept in Qur'an as follows:

O you who believe, do not devour each other's property by false means, unless it is trade conducted with your mutual consent. Do not kill one another. Indeed, Allah has been Very-Merciful to you. (QS 4:29).

There is also a verse in Al-Qur'an regarding how Islam also teaches us in administration of contract in business transactions

O you who believe, when you transact a debt payable at a specified time, put it in writing, and let a scribe write it between you with fairness. A scribe should not refuse to write as Allah has educated him. He, therefore, should write. The one who owes something should get it written, but he must fear Allah, his Lord, and he should not omit anything from it. If the one who owes is feeble-minded or weak or cannot dictate himself, then his guardian should dictate with fairness. Have two witnesses from among your men, and if two men are not there, then one man and two women from those witnesses whom you like, so that if one of the two women errs, the other woman may remind her. The witnesses should not refuse when summoned. And do not be weary of writing it down, along with its due date, no matter whether the debt is small or large. That is more equitable in Allah's sight, and more supportive as evidence, and more likely to make you free of doubt. However, if it is a spot transaction you are effecting between yourselves, there is no sin on you, should you not write it. Have witnesses when you transact a sale. Neither a scribe should be made to suffer, nor a witness. If you do (something harmful to them), it is certainly a sin on your part, and fear Allah. Allah

educates you, and Allah is All-Knowing in respect of everything. QS (2:282)

Managerial treatment is an attempt to share the knowledge and managerial skills to improve the quality of product and services, to expand target market and to do the proper business administration. Motivation, personnel, marketing, production, financial management are crucial for clients to improve their business performance.

3.2.1 Relation between Managerial-Technological and Repayment Rate Problems

Managerial problem emerges because of inability of the owner/manager to manage the business well. Managerial factors which influence the business performance and at the end has impact on repayment rate are the followings:

- 1. Achievement motivation of microentrepreneurs
- 2. Capability to do strategic planning on their current business and future
- 3. Marketability and creativity to generate new demand and market
- 4. Human resources and personnel management skills
- 5. Financial small business management and accounting
- 6. Family's financial planning and management. Most micro-entrepreneurs found the difficulty to disentangle their family's money from their business' money.

Table 1 Concept of Managerial Trainings

PROBLEM	PERSONALITY	MANAGERIAL	SKILL	INDICATOR
Motivation	Discipline High Achievement			High Motivation to success
Management		Planning Leading Organizing Controlling	Managerial Skill	Implementation of integrated management principles in UMK's business
Marketing		Segmentation Targeting Positioning	Marketing management skill	Higher marketing management capability
Human Resource		Leadership, Staffing, Compensation, Staff management	Leadership and staff management skill	Effective and efficient staff management
Operation		Layout, Material Handling	Layout efficiency, minimum goods defect	Easy material/product flow, zero product defect, minimum queuing customers
Financial		Sources of fund Usesof fund	Accountability, efficient fund source and use management skill	High Accountability, Efficient fund source and use management
Bookkeeping		Records. Goods Inflow and outflow, stock taking	Effective Cost Control, effective stock control, efficient pricing	Low cost of good sold, Low stock loss rate, very competitive price
Family Financial Planning		Current Planning Future Planning	Habitual, family financial planning skill	Better family financial planning and recording

The advance of information and technology has two side impacts, negative and positive. The example of the former is cutting more jobs due to technology can replace man power and the latter makes our daily life easier, efficient and effective. Therefore, it depends on how

people see and apply the technology in their daily activities. Technology awareness is very important to be introduced for MFI's clients. Technological assistance had been given to MFI's clients vary from one group of business to other groups of business. High quality of product, low operation cost and having ability to reach target market quickly using technology are the expectation result from technological treatment. At the end, if micro-entrepreneur's business success and profitable, there is no reason to not repay their loan on time.

4. METHODOLOGY

Treatments and research were conducted for 11 months in Bandung, a city in Indonesia. There were 162 participants involved in this pilot project. Participants were divided into four clusters:

•	Cluster A	(ST - MT - TT)	42 participants
•	Cluster B	(MT-TT)	40 participants
•	Cluster C	(ST)	40 participants
•	Cluster D	(Controller)	40 participants

Recruitment and selection process were conducted randomly from 13 Islamic banking and microfinance institutions around Bandung area. The composition of participants based on Islamic banking and microfinance institutions as follows:

•	BRI Syariah	4,907%
•	Bank Jabar Syariah	3,067%
•	Bank Muammalat Indonesia	10,429%
•	Bank Syariah Mandiri	1,22%
•	BPRS Al Ma'soem	7,97%
•	BPRS Salman	4,29%
•	BPRS Amanah Rabbaniah	17,178%
•	BPRS Dana Tijarah	6,75%
•	BPRS Baituriddho	2,45%
•	BPRS Al Ihsan	24,54%
•	BPRS Ishlahul Ummah	0,61%
•	BPRS PNM Mentari	8,59%
•	BPRS Harum Hikmah Nugraha	7,97%

There is no particular reason regarding the different number of participants in each bank. In the beginning process, there were some obstacles to ask the microenterpreneurs to join this program, in particular, related to their commitment to attend all the programs. Although all programs were free and the participants were also provided with transportation costs, free accomodation and free lunch, in fact, it was totally difficult to ask them to come and join this project. Most of them were reluctant to participate with various reasons. Most reasons they did not want to leave their shop/business even only three hours per month for attending a seminar/workshop/training or Islamic business gathering. Most microentrepreneurs were traders who have a small shop and they always be there all the time otherwise, without supervisory the shop would be closed. Even so, they have a shop assistance as well to help them. But based on our analysis during the interview, most of them reluctant because they didn't undertand what the benefits of this program although we had already fully explained to them. They interested only with tangible benefit such as how much soft loan they would get after join this program or how much money that Bank Indonesia would give to them and other questions related to money. They did not interested with intangible benefits such as knowledge, skills, networking, and spiritual enrichment which were offered through this programs.

After hardly trying to persuade them, finally 160 participants were agree to participate with

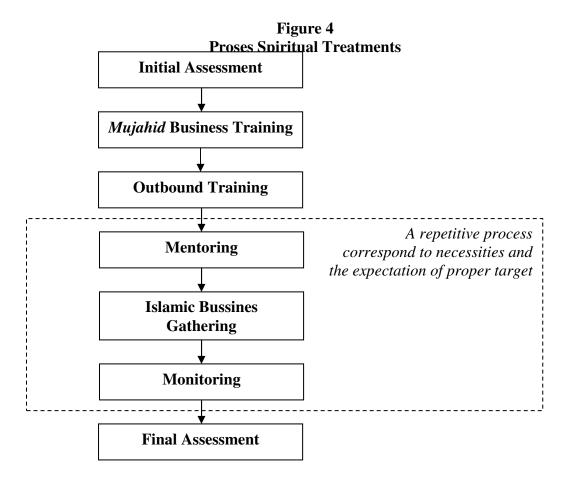
this project. As general there were two types of participants' business: trader (66%), producers and service providers (34%).

4.1 Research's process:

First of all, all participants attended an induction ceremony hosted by Bank Indonesia as the sponsor of this project. After induction, all participants fulfilled questionnaires related to their business profile, personal profile, some psychological tests and an initial assessment. Overall processes of treatments are as follows:

Process of spiritual treatments:

- Initial assessment
- Mujahid Business Training
- Sa'i Achievement & Enterpreneurship Spiritual Outbound
- Mentoring with 6 topics (*Ihsan*, patience, honest, amanah, tawwakal, syukur)
- *Islamic* Bussines Gathering
- Final Assessment



- *Mujahid* Business Training is a basic training related to *tauhid uluhiyah* and its implementation to daily business activities. This two-day training was ended with *muhasabah* activities, *sholat tahajjud* and prayers together to build commitment to do fair business and repay loan on time. Through this training, micro-entrepreneurs were expected to have sufficient fundamentals to internalize the spiritual values in daily business activities.
- Sa'i Achievement & Entrepreneurship Spiritual Outbound is an outbound training which embedded the spiritual values in daily life through several activities in the wide open spaces. This activity was held only one day.

- Mentoring is an activity where a Muslim cleric gave advice to a group of microentrepreneurs regarding the religious matters. This group and its mentor had regular meeting to internalize the spiritual values. A group comprised with 8-10 microentrepreneurs who live near each other. Mentoring was held twice in a month in a mosque near to the place where the participants live.
- *Islamic* Business Gatherings are regular networking activity which involved all participants. A particular topic that was considered pivotal for participants was also discussed in this gathering. In this event, a prominent businessman who successes in this business and also implements spiritual principles gave his lecture.

Process of managerial treatments (see figure 5 below):

- Initial assessment
- Management Training (8 modules)
- Counseling and managerial assistances
- Monitoring
- Business consultation
- Final Assessment

There was two-day management training with 8 modules (achievement motivation, general management, financial, marketing, personnel, production, book-keeping, and family's financial planning). One month after training, the researchers visited the participants in their business place/office to see whether the participant needs assistance or not. Monitoring is a regular assessment to see what the affect of the treatments to participant in daily business. Besides initial and final assessments, there were three times monitoring during this project in order to get the data regarding the impact of training in daily business activities.

Process of technological treatments (see figure 6 below):

- Initial Assessment
- Technological Workshop
- Counseling and technological assistance
- Monitoring
- Consultation
- Final Assessment

There was two-day workshop in technology. The first day, the mentor shared the knowledge about the basic of technology which was highly related to the characteristic of micro businesses and information technology support system. The second day, the participants were actively involved in working practices a particular technology linked to their business. The same with managerial treatment, there were also three monitoring process besides initial and final assessment.

This project involved 15 trainers, 15 researchers and 5 administrators. Fifteen trainers had background management, academics, business, psychology, Ulama (religious scholars) and engineer. 15 researchers did initial assessment, three monitoring and final assessment. Researchers assessed whether the training, technical assistances, counseling and business gathering which invited the prominent businessman could improve their attitude and business performance and at the end to improve their repayment rate.

Figure 5 Process of Managerial Treatments

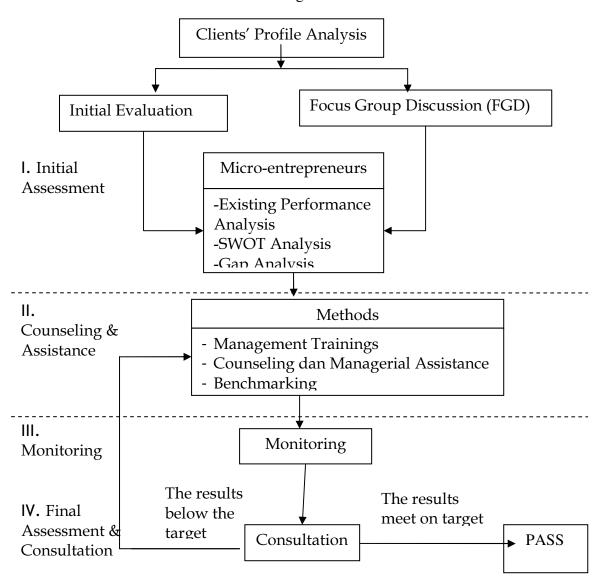
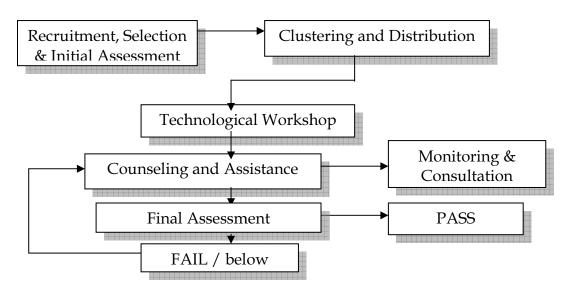


Figure 6
Process of Technological Treatments



4.2 Research Hypothesis

Research hypothesis is the treatments affect on the changes of behaviour and business performance.

Method and Test of Research Hypothesis instrument

To verify the effects of those three treatments, non-parametric statistics Friedman Test (for K related sample) and Kruskal-Wallis Test (for k independent sample) were used deliberately because most data were ordinal.

Friedman Test:

In K related sample condition, the results of this test enable researcher know whether every training, consultation and assistance can make any different result or not as hypothesis below:

H₀: Every treatment do not make any different changes

H₁: Every treatment makes any different changes

o The result of Friedman test enable researcher to analyze whether there were any changes in participants' behavior and business performance on each cluster after getting treatments

Kruskal Wallis test:

In k independent sample condition, the results of this test enable researcher know whether every training, consultation and assistance can make any different result or not as hypothesis below:

H₀: There is no different changes among clusters

 H_1 : There are different changes among clusters

The result of Kruskal-Wallis test gave information for researcher to see whether there
were any changes in participants' behavior and business performance among clusters after
getting treatments and to determine which one the best cluster on each treatment.

<u>Note</u>: Every treatment, spiritual, managerial or technological, has a set of questionnaires about participant's and business' profile, behavior test and business performance's progress related with each treatment. The same researcher in charged of the same participants from beginning until final. In brief, one researcher had responsibility to assess the same participant until the end of project. One researcher had responsibility for assessing 10-11 participants whether the treatment had an impact to their behavior and business performance or not.

4.3 Non-parametrics Statistics

4.3.1 Friedman Test

The assumptions of the analysis of variance two-way ranking of Friedman are as follows:

- K related sampel
- At least scale of ordinal.
- Quantity of sample in each case equal

Procedure of Friedman test is as follows:

- o Table contents k columns and n rows
- o Rank all data in each row from 1 to k
- o Total ranks are determined from each Ri columns.
- The value of χ_r^2 can be obtained as follows:

$$\chi_r^2 = \frac{12}{Nk(k+1)} \sum_{j=1}^k (Rj)^2 - 3N(k+1)$$

where: N: the number of row k: the number of column

Rj: The number of rank in column j

Method to measure the probability an event happened below Ho related to observation price χ_r^2 depends on measurement n and k

- \circ For the big N and k used Chi Square table with db = k-1
- o If the probability of results equal or $< \alpha$ so H_o is REJECTED

4.3.2 Kruskal Wallis Test

The assumptions of the analysis using Kruskal Wallis are as follows: Kruskal Wallis:

- Independent K sample.
- Quantity of members in each case can be different
- Scale of measurement at least ordinal.

Procedure of Kruskal Wallis test is as follows:

- Rank all data for k group with order 1-N,
- The value of R (quantity of sample) is determined by each K group.
- Test statistic of Kruskal Wallis (H)

$$H = \frac{12}{N(N+1)} \sum_{i=1}^{k} \frac{Rj^2}{nj} - 3(N+1)$$

note:

k: number of sample

nj: number of case in sample j

N: quantity of case in all samples

Method to measure a significance of value H depends on size of k and size of group.

- If k = 3 and if $n_1, n_2, n_3 < 5$, it used Kruskal Wallis' table.
- If k > 3, using Chi Square's table.
- If the probability related to value H equal (=) or less than (r < α) , so Ho is REJECTED

5. RESULTS

The results of empirical data measurement regarding effects of treatments are the followings:

Tabel 2
Summary of Empirical Research

STATISTIK	CLUSTER	MT	TT	ST	MT,TT,ST
	Cluster A	86.781***	40.168**	82.146**	350.140***
FRIEDMAN TEST	Cluster B	121.873***	46.873**	22.091**	349.243***
	Cluster C	0.400	0.800	79.038**	198.582***
	Cluster D	2.000	3.571	2.455	1.977
KRUSKAL WALLIS TEST	CLUSTER A,B,C,D	94.053***	42.087**	27.698**	

Notes: * Significance level 10% ** Significance level 5% ***

Significance level 1%

Friedman Test Results:

Cluster A

• The results of Friedman test for all treatments in cluster A showed the value of chi square 350.14 and p-value < 0.05. It means that micro-entrepreneur who received all treatments showed significant different changes in behavior and business performance.

• Meanwhile, the results of Friedman test to the effectiveness of managerial treatment in Cluster A showed Chi square 86.781 with p-value < 0.05, spiritual treatments with Chi square 82.146 and p-value < 0.05, and technological treatment with Chi square 40.168 and p-value < 0.05. Each treatment showed significant different changes in behavior and business performance.

Cluster B

- The results of Friedman test for all treatments in cluster B showed the value of chi square 349.243 and p-value < 0.05. It means that micro-entrepreneur who received all treatments showed significant different changes in behavior and business performance.
- Meanwhile, the results of Friedman test to the effectiveness of managerial treatment in Cluster B showed Chi square 121.873 with p-value < 0.05, spiritual treatments with Chi square 22.091 and p-value < 0.05, and technological treatment with Chi square 46,873 with p-value < 0.05. Each treatment showed significant different changes in behavior and business performance.

Cluster C

- The results of Friedman test for all treatments in cluster C showed the value of chi square 198.582 and p-value < 0.05. It means that micro-entrepreneur who received all treatments showed significant different changes in behavior and business performance.
- Meanwhile, the results of Friedman test to the effectiveness of managerial treatment in Cluster C showed Chi square 0.400 with p-value > 0.05. Each treatment showed non significant of different changes in behavior and business performance but spiritual treatment showed significant different changes in behavior and business performance with Chi square 79.038 and p-value < 0,05. Initial and final assessment of technological treatment for micro-entrepreneur showed non significant different changes in behavior and business performance with Chi square 0.800 and p-value > 0.05.

Cluster D

- The results of Friedman test for all treatments in cluster D showed the value of chi square 1.977 and p-value > 0.05. It means that micro-entrepreneur who received no treatments at all showed non significant different changes behavior and business performance between initial and final assessment.
- Meanwhile, the results of Friedman test to the effectiveness of managerial treatment in cluster D showed Chi square 2 with p-value > 0.05, spiritual treatment also showed Chi square 2.455 with p-value > 0.05 and Chi square 3.571 with p-value > 0.05 for technological treatment. These results came from initial and final assessment only because Cluster D is a controller cluster which receives no treatments at all. The results showed there were no different changes in behavior and business performance between initial and final condition for three aspects.

Kruskal Wallis Test Results

The results of Kruskal-Wallis test on managerial aspect proved that there is the significant difference capacity of micro-entrepreneurs on four clusters with value of Kruskal Wallis (H) 94.053 and p-value < 0.05. Managerial aspect of cluster A is the best among clusters. Meanwhile, the result of spiritual aspect had proved that there is significant difference among four clusters with value of Kruskal Wallis (H) 27.698 and p-value < 0.05. This result means that spiritual capacity of cluster A is the best among other clusters. The same pattern was also seemed on technological aspect whereas there was a significant difference among four clusters with value of Kruskal Wallis (H) 42.087 and p-value < 0.05 and in this aspect, cluster A was still the best among other clusters.

6. CONCLUSIONS and LESSONS LEARNT

6.1 Conclusions:

As the pillar of Indonesian economy nowadays, Islamic small-micro-entrepreneurs (SME's) should get more attention both in business matters and Islamic financing scheme. Through the linkage project among Islamic microfinance institutions, a research university, and Bank Indonesia, this research attempts to find an appropriate scheme for improving SME's business behavior and performance based on the characteristics of Indonesian Muslims. The project was a combination of treatments and research. Research was conducted to test the results of three treatments, spiritual, managerial and technological. The basic assumption of this research is the power of spirituality, managerial skill and utilized technology can be applied for ensuring high repayment rate through appropriate behavior and good business performance. 162 Islamic MFI's clients from 13 Islamic financial institutions were involved in this research. The respondents were divided into four clusters, i.e., cluster A (three treatments), cluster B (two treatments), cluster C (one treatment only), and cluster D (no treatment). Based on Friedman Test, cluster A which received three treatments shows the higher significant changes in behavior and business performance (350.14 and p-value < 0.05) than does cluster B which received two treatments (349.243 and p-value < 0.05) and cluster C which received only one treatment (198.582 and p-value < 0.05) respectively. Cluster B shows more significant changes in behavior and business performance than does cluster C and D. Cluster C also shows the better changes in behavior and business performance than does cluster D (1.977 and p-value > 0.05) which did not get any treatments at all as a controller cluster. The result of spiritual aspect had proved that there is significant difference among four clusters with value of Kruskal Wallis (H) 27.698 and p-value < 0.05. This result means that spiritual capacity of cluster A is the best among other clusters. Meanwhile, the results of Kruskal-Wallis test on managerial aspect proved that there was the significant difference capacity of micro-entrepreneurs on four clusters with value of Kruskal Wallis (H) 94.053 and p-value < 0.05. Managerial aspect of cluster A was the best among clusters. The same pattern was also seemed on technological aspect whereas there was a significant difference among four clusters with value of Kruskal Wallis (H) 42.087 and p-value < 0.05 and in this aspect, cluster A was still the best among other clusters. In brief, a combination of spiritual dimension, managerial skills and utilized technology can improve micro-entrepreneur's behavior and business performance.

6.2 Lessons Learnt:

There are some interesting facts dealing with micro-entrepreneurs who are clients of an Islamic MFI emerge from this project despite these facts were not monopolized by Islamic MFI's clients but also applied for conventional MFI's clients as well.

- 1. Although as general micro-entrepreneurs showed enthusiasm to participate in all programs, there were few micro-entrepreneurs who were quite reluctant to involve with. Some of them felt so ashamed if other people (not loan officers) knew they borrowed the money from MFI. There were the cases that MFI's clients paid in full their loans soon after the initial assessment and terminated immediately their participation with this project.
- 2. Some participants had refused to allow the researcher to visit their business place/office/shop without saying the reasons behind their refusal.
- 3. One of the nature of micro-business is a highly business turn over. This characteristic make micro entrepreneur difficult keeping accounting routinely particularly in a traditional market and for those who doesn't use a cash register machine. Through the managerial training, they were convinced for keeping accounting and using that cash

- register's machine. Nonetheless, there were still many micro-entrepreneurs who thought it was so unnecessarily due to the scale of their business and comfort zone.
- 4. Regarding the necessity to help the micro entrepreneurs in term of the spiritual, managerial and technological aspects, Islamic microfinance institutions (IsMFIs) need to have a special unit to assist the vulnerable micro-entrepreneurs regularly. The other alternative, Bank Indonesia collaborated with local universities can establish special teams who provide training services to all Islamic microfinance institutions in that area and replicate this project to other areas.

Note:

The pilot project has been also replicated to other IsMFIs spreading in some areas in Indonesia. Started with Training for Trainers (TfT) program first and then new trainers did treatments to Islamic MFIs clients in his own areas.

APPENDIX

Friedman Test for Cluster A

Tabel A-1 Friedman Test Cluster A

	Friedman Test Cluster A												
		al Assessn			onitoring	1	Monitoring 2 Monitoring 3				Final Assessment		
No Resp	ST (init)	MT (init)	TT (init)	ST 1,2,3	MT1	TT1	MT2	TT2	MT3	TT3	STFinal	MT Final	TT Final
A01	52	17	24	23	29	24	36	27	43	27	55	44	27
A02	49	20	12	20	28	14	29	14	32	14	58	33	14
A03	49	28	19	18	33	24	38	27	39	30	54	39	33
A04	48	30	21	22	34	15	37	17	41	18	61	43	21
A05	50	18	29	24	21	15	23	19	24	21	54	25	29
A06	56	29	21	33	27	29	29	29	32	29	67	35	35
A07	44	26	18	27	31	31	36	35	41	35	52	47	25
A08	52	27	20	28	40	23	40	23	48	23	59	48	27
A09	60	15	19	28	19	26	21	26	21	27	69	21	22
A10	46	14	13	16	24	15	32	17	35	18	60	37	33
A11	53	25	14	25	22	23	32	27	38	30	56	40	32
A12	49	22	17	25	25	20	29	26	31	31	58	33	31
A13	46	29	14	19	20	20	26	26	29	31	51	32	25
A14	52	17	19	26	19	18	24	20	26	24	54	30	24
A15	47	15	11	18	15	15	15	17	17	21	58	18	31
A16	50	17	29	24	16	20	17	26	18	30	53	22	31
A17	50	17	13	23	25	31	32	31	38	31	63	42	20
A18	42	16	12	25	23	18	23	18	29	20	47	31	14
A19	47	14	20	18	21	12	25	13	25	13	47	31	27
A20	53	16	6	24	32	23	32	24	40	26	58	40	18
A21	56	15	16	23	15	15	15	17	15	18	64	15	19
A22	50	17	17	24	16	18	17	18	17	19	57	17	17
A23	48	21	10	24	32	14	32	14	32	15	48	32	18
A24	46	22	6	23	32	15	32	17	32	18	63	32	15
A25	56	24	6	24	24	13	24	15	32	15	64	32	18
A26	56	24	15	25	32	15	40	17	40	18	59	40	19
A27	49	21	10	30	32	15	40	17	40	18	55	40	10
A28	53	19	12	18	16	10	16	10	16	10	67	16	16
A29	52	18	14	26	24	12	32	10	32	12	52	32	15
A30	51	20	19	23	24	10	24	10	29	10	60	29	22
A31	42	20	15	21	32	16	32	16	32	16	55	32	19
A32	47	25	11	25	32	17	40	17	40	18	54	28	17
A33	51	18	20	24	26	15	26	15	28	15	56	32	20
A34	48	30	6	20	30	26	35	26	35	26	52	38	19
A35	48	19	17	27	19	18	19	18	23	18	58	23	19
A36	51	25	14	21	30	14	31	14	35	14	57	39	22
A37	50	33	18	21	37	17	37	17	38	17	59	39	27
A38	58	39	16	20	40	19	40	19	40	19	68	40	22
A39	47	19	19	22	32	14	40	14	40	14	50	40	19
A40	50	22	13	21	30	10	30	18	31	10	56	40	16
A41	47	17	13	24	24	13	32	6	32	6	58	32	6
A42	50	16	14	22	18	15	22	17	23	18	50	26	18

Friedman Test for Cluster B

Tabel A-2 Friedman Test for Cluster B

						Test for Cluster B						
No. Resp		l Assessn		Monito	ring 1	Monitoring 2		Monito	ring 3		1 Assessme	
	MT Init	ST Init	TT Init	MT1	TT1	MT2	TT2	MT3	TT3	MT Final	ST Final	TT Final
B01	16	48	25	25	18	26	19	28	20	29	55	26
B02	16	51	10	17	16	24	18	24	18	25	59	18
B03	9	57	9	11	16	20	17	27	19	28	57	19
B04	16	51	19	27	19	27	23	26	23	26	51	23
B05	14	51	14	25	15	25	15	28	19	30	52	19
B06	18	44	13	11	21	20	21	27	21	29	56	21
B07	21	51	23	30	23	31	23	31	23	31	47	23
B08	14	45	13	15	19	24	17	30	18	31	47	18
B09	18	49	16	28	21	28	21	29	20	29	51	20
B10	14	45	7	26	19	26	17	29	18	29	45	18
B11	22	48	17	16	17	19	17	21	17	23	55	17
B12	13	42	13	25	19	26	17	28	18	28	45	17
B13	23	45	6	26	11	26	11	27	11	27	44	11
B14	17	45	9	22	14	26	14	29	14	31	51	14
B15	20	44	15	23	15	27	15	27	15	29	55	15
B16	19	45	19	24	19	29	19	32	19	33	46	19
B17	21	53	19	25	19	28	20	28	21	28	61	25
B18	26	46	14	26	14	28	14	30	16	30	56	22
B19	22	46	17	19	17	21	21	23	21	26	46	20
B20	31	51	25	33	25	37	25	39	25	42	51	25
B21	15	48	17	17	11	20	11	26	11	28	59	17
B22	25	53	21	28	18	28	17	29	18	30	54	21
B23	27	49	19	15	19	24	19	31	24	33	52	24
B24	28	45	20	28	19	30	17	33	25	33	50	26
B25	24	45	19	26	19	28	17	28	15	30	45	19
B26	20	45	7	24	12	24	12	26	12	26	45	12
B27	11	48	23	20	23	21	23	23	23	28	55	23
B28	15	49	13	19	17	19	17	19	6	19	54	6
B29	18	45	15	20	17	25	21	27	22	28	43	22
B30	30	47	21	36	23	39	23	43	25	45	50	30
B31	29	50	19	32	19	33	17	35	18	36	58	20
B32	20	48	20	20	22	25	22	25	22	25	51	23
B33	19	46	10	27	10	28	10	28	10	29	56	10
B34	28	47	10	26	19	27	20	27	21	27	53	21
B35	30	43	21	30	21	36	21	37	21	37	44	23
B36	15	51	17	15	19	17	17	17	18	17	60	19
B37	21	51	15	9	18	16	18	23	18	26	59	18
B38	19	51	17	24	19	31	19	34	19	37	61	19
B39	26	44	13	28	13	33	17	35	18	40	50	19
B40	19	52	14	18	19	18	17	21	18	21	59	18

Friedman Test for Cluster C

Tabel A-3 Friedman Test for Cluster C

No Resp	Initi	ial Assess		Mentoring		l Assessme	ent
•	MT	ST			MT	TT	ST
	Init	Init	TT Init	ST	Final	Final	Final
C01	17	45	14	26	17	15	54
C02	21	49	7	26	21	7	57
C03	19	43	14	25	19	13	50
C04	18	48	18	23	19	18	58
C05	21	56	14	23	20	12	60
C06	14	49	22	21	14	22	60
C07	20	46	14	21	20	11	47
C08	15	53	7	16	15	12	60
C09	16	46	13	19	16	12	52
C10	13	42	13	13	13	13	48
C11	16	45	18	25	15	18	50
C12	18	46	12	19	18	12	54
C13	10	48	15	24	10	15	57
C14	15	46	12	22	14	12	46
C15	18	46	14	19	18	14	51
C16	23	47	21	28	23	21	54
C17	11	43	18	28	11	19	49
C18	15	43	15	27	15	13	52
C19	21	50	14	17	22	12	59
C20	19	43	14	19	19	12	51
C21	16	53	13	22	16	13	58
C22	12	48	17	13	12	12	49
C23	16	44	16	23	16	16	53
C24	15	51	19	23	15	12	57
C25	18	44	19	25	17	19	48
C26	20	46	19	21	20	19	57
C27	14	48	14	25	14	12	53
C28	15	50	13	23	16	13	56
C29	13	43	14	14	13	16	45
C30	20	44	11	23	20	11	51
C31	15	51	14	22	15	18	62
C32	15	47	11	25	19	13	60
C33	18	44	13	25	18	12	53
C34	17	47	13	24	17	13	58
C35	17	46	23	21	17	23	61
C36	19	46	15	23	19	15	51
C37	14	46	14	22	16	17	50
C38	17	49	14	22	17	16	55
C39	12	49	14	22	12	14	49
C40	19	45	10	25	20 _	9	55

Friedman for Cluster D

Tabel A-4 Friedman Test for Cluster D

No				Cluster D				
UKM	Initial Assessment			Fina	l Assessme	ent		
	MT	ST	TT	MT	TT	ST		
	Initial	Initial	Initial	Final	Final	Final		
D01	36	50	24	38	24	51		
D02	19	44	15	18	15	48		
D03	18	48	19	17	19	52		
D04	14	49	16	14	16	51		
D05	19	45	14	19	14	46		
D06	11	49	20	12	20	51		
D07	19	48	19	21	19	50		
D08	33	43	18	31	18	43		
D09	15	45	21	15	21	45		
D10	23	50	20	23	20	56		
D11	16	51	16	16	16	59		
D12	26	45	25	26	25	59		
D13	17	47	21	17	21	48		
D14	13	45	8	14	8	47		
D15	16	47	16	16	17	48		
D16	14	50	10	14	10	53		
D17	14	51	7	14	7	61		
D18	10	46	7	10	7	46		
D19	22	50	19	22	19	50		
D20	14	46	14	14	14	46		
D21	21	44	16	20	16	53		
D22	20	49	12	20	12	62		
D23	17	44	17	18	17	52		
D24	16	48	10	20	10	53		
D25	25	45	7	24	12	48		
D26	10	51	17	12	17	52		
D27	14	48	9	14	14	56		
D28	18	47	8	19	11	55		
D29	15	46	10	15	10	59		
D30	12	51	15	13	10	53		
D31	13	51	18	13	18	56		
D32	14	46	19	15	19	49		
D33	18	50	7	17	13	51		
D34	18	49	21	18	21	54		
D35	19	50	13	19	16	54		
D36	11	48	8	14	8	50		
D37	11	49	19	13	19	55		
D38	23	45	15	23	15	59		
D39	21	45	18	21	18	45		
D40	37	47	27	37	27	47		

Table A-5
The results of Friedman Test per Cluster

tor (Cluster	A (51	onl	y))

Sum of Ranks	Avg. Rank	Assessment
86.00	2.05	Initial
42.00	1.00	Mentoring
124.00	2.95	Final
252.00	2.00	Total
	N	42
	Chi-square	
	(corrected	
	for ties)	82.146
	d.f.	2
	p-value	1.45E-18

for Cluster A (MT only)

Sum of Ranks	Avg. Rank	Assessment		
64.50	1.44	Initial		
97.50	2.15	1		
136.50	3.05	2		
153.00	3.93	3		
178.50	4.43	Final		
630.00	3.00	Total		
	N	42		
	chi-square			
	(corrected for ties)			
	d.f.	4		
	p-value	2.80E-25		

for Cluster A (TT only)

for Cluster A (11 only)								
Sum of Ranks	Avg. Rank	Assessment						
90.00	2.00	Initial						
112.00	2.38	Mon -1						
138.00	3.01	Mon - 2						
118.00	2.60	Mon - 3						
172.00	4.01	Final						
630.00	3.00	Total						
	N	42						
	Chi-square							
	(corrected for ties)	52.808						
	d.f.	4						
	p-value	9.35E-11						

for Cluster B (ST only)

Sum of Ranks	Avg. Rank	Assessment
46.50	1.16	Initial
73.50	1.84	Final
120.00	1.50	Total
	N	40
	Chi-square	
	(corrected for ties)	22.091
	d.f.	1
	p-value	2.60E-06

for Cluster B (MT only)

Sum of Ranks	Avg. Rank	Assessment
58.50	1.46	Initial
78.00	1.95	Mon - 1
119.50	2.99	Mon - 2
158.50	3.96	Mon - 3
185.50	4.64	Final
600.00	3.00	Total
	N	40
	Chi-square	
	(corrected for ties)	121.873
	d.f.	4
	p-value	2.13E-25

for Cluster B (TT only)

	· · · · · · · · · · · · · · · · · · ·	
Sum of Ranks	Avg. Rank	Assessment
79.50	1.99	Initial
119.00	2.98	Mon - 1
112.00	2.80	Mon - 2
134.50	3.36	Mon - 3
155.00	3.88	Final
600.00	3.00	Total
	N	40
	Chi-square	
	(corrected for ties)	46.873
	d.f.	4
	p-value	1.62E-09

Table A-6
The results of Friedman Test

fo	or Cluster C (ST or	nly)	fo	or Cluster C (MT o	nly)		for Cluster C (TT only)		
Sum of Ranks	Avg. Rank	Assessment	Sum of Ranks	Avg. Rank	Assessment	Sum of Ranks	Avg. Rank	Assessment	
81.00	2.03	Initial	59.00	1.48	Initial	62.00	1.55	Initial	
40.00	1.00	Mentoring	61.00	1.53	Final	58.00	1.45	Final	
119.00	2.98	Final	120.00	1.50	Total	120.00	1.50	Total	
240.00	2.00	Total							
	N	40		N	40		N	40	
	Chi-square			Chi-square			Chi-square		
	(corrected for ties)	79.038		(corrected for ties)	0.400		(corrected for ties)	0.800	
	d.f.	2		d.f.	1		d.f.	1	
	p-value	6.87E-18		p-value	.5271		p-value	.3711	
fo	or Cluster D (ST o	nly)	fo	or Cluster D (MT o	nly)	for Cluster D (TT only)			
Sum of Ranks	Avg. Rank	Assessmen t	Sum of Ranks	Avg. Rank	Assessment	Sum of Ranks	Avg. Rank	Assessment	
55.50	1.39	Initial	57.00	1.43	Initial	57.50	1.44	Initial	
64.50	1.61	Final	63.00	1.58	Final	62.50	1.56	Final	
120.00	1.50	Total	120.00	1.50	Total	120.00	1.50	Total	
	N	40		N	40		N	40	
	Chi-square			Chi-square			chi-square (corrected		
	(corrected for ties)	2.455		(corrected d for ties)	2.000		for ties)	3.571	
	I .		1 1						
	d.f.	1		d.f.	1		d.f.	1	

	Tab	ole A-7 The results of	an Test for (ST, MT and TT)	
	CLUSTER A	only	CLUSTER B only	
Sum of Ranks	Avg. Rank	Assessment	Sum of Ranks Avg. Rank	Assessment
505.00	12.02	ST Init	182.00 4.55	MT Init
206.00	4.90	MT Init	446.50 11.16	ST Init
113.50	2.70	TT Init	98.50 2.46	TT Init
278.50	6.63	ST 1,2,3	221.50 5.54	MT1
274.00	6.52	MT1	152.50 3.81	TT1
136.00	3.24	TT1	298.00 7.45	MT2
334.50	7.96	MT2	146.50 3.66	TT2
180.00	4.29	TT2	352.00 8.80	MT3
381.50	9.08	MT3	171.50 4.29	TT3
214.00	5.10	TT3	381.50 9.54	MT Final
544.00	12.95	ST Final	473.50 11.84	ST Final
411.00	9.79	MT Final	196.00 4.90	TT Final
244.00	5.81	TT Final	3,120.00 6.50	Total
3,822.00	7.00	Total	N	40
	N	42	Chi-square (corrected for ties)	349.243
	chi-square (corrected for	ties) 350.140	d.f.	11
	d.f.	12	p-value	3.51E-68
	p-value	1.31E-67		
	CLUSTER C	only	CLUSTER D only	
Sum of Rank	s Avg. Ra	nk Assessment	Sum of Ranks Avg. Rank	Assessment
110	5.00 2.90	MT Init	136.50 3.41	ST Init
	.00 6.03	ST Init	135.50 3.39	ST Init
91	.00 2.28	TT Init	150.00 3.75	MT Init
188	3.50 4.71	ST	139.50 3.49	MT Final
119	2.99	MT Final	147.50 3.69	TT Final
8	5.00 2.13	TT Final	131.00 3.28	TT Final
279	0.00 6.98	ST Final	840.00 3.50	Total
1,120	0.00 4.00	Total	n	40
	N	40	chi-square (corrected for ties)	1.977
	Chi-square (correc	ted for ties) 198.582	d.f.	5
	d.f.= 6 and p-valu	ae 3.80E-40	p-value	.8524

Kruskal Wallis Test

Tabel A-8
The Results of Kruskal-Wallis Test per Treatment

Data o	Data of Kruskal Wallis Test for ST			Data of Kruskal Wallis Test for MT				Data of Kruskal Wallis Test for TT			
ST Final	ST Final	ST Final	ST Final	MT Final	MT Final	MT Final	MT Final	TT Final	TT Final	TT Final	TT Final
Cluster A	Cluster B	Cluster C	Cluster D	Cluster A	Cluster B	Cluster C	Cluster D	Cluster A	Cluster B	Cluster C	Cluster D
55	55	54	49	44	29	17	38	27	26	14	24
58	59	57	48	33	25	21	18	14	18	7	15
54	57	50	51	39	28	19	17	33	19	14	19
61	51	58	51	43	26	19	14	21	23	18	16
54	52	60	44	25	30	20	19	29	19	14	14
67	56	60	46	35	29	14	12	35	21	22	20
52	47	47	48	47	31	20	21	25	23	14	19
59	47	60	43	48	31	15	31	27	18	7	18
69	51	52	45	21	29	16	15	22	20	13	21
60	45	48	53	37	29	13	23	33	18	13	20
56	55	50	59	40	23	15	16	32	17	18	16
58	45	54	59	33	28	18	26	31	17	12	25
51	44	57	43	32	27	10	17	25	11	15	21
54	51	46	44	30	31	14	14	24	14	12	8
58	55	51	41	18	29	18	16	31	15	14	17
53	46	54	52	22	33	23	14	31	19	21	10
63	61	49	61	42	28	11	14	20	25	18	7
47	56	52	42	31	30	15	10	14	22	15	7
47	46	59	50	31	26	22	22	27	20	14	19
58	51	51	46	40	42	19	14	18	25	14	14
64	59	58	53	15	28	16	20	19	17	13	16
57	54	49	61	17	30	12	20	17	21	17	12
48	52	53	50	32	33	16	18	18	24	16	17
63	50	57	52	32	33	15	20	15	26	19	10
64	45	48	47	32	30	17	24	18	19	19	12

59	45	57	45	40	26	20	12	19	12	19	17
55	55	53	55	40	28	14	14	10	23	14	14
67	54	56	55	16	19	16	19	16	6	13	11
52	43	45	58	32	28	13	15	15	22	14	10
60	50	51	46	29	45	20	13	22	30	11	10
55	58	62	56	32	36	15	13	19	20	14	18
54	51	60	45	28	25	19	15	17	23	11	19
56	56	53	48	32	29	18	17	20	10	13	13
52	53	58	54	38	27	17	18	19	21	13	21
58	44	61	52	23	37	17	19	19	23	23	16
57	60	51	46	39	17	19	14	22	19	15	8
59	59	50	53	39	26	16	13	27	18	14	19
68	61	55	59	40	37	17	23	22	19	14	15
50	50	49	45	40	40	12	21	19	19	14	18
56	59	55	47	40	21	20	37	16	18	10	27
58				32				6			
50				26				18			

The results of Kruskal Wallis Test for ST

Median	N	Avg. Rank	Cluster
57.00	42	109.19	A
52.00	40	73.58	В
53.50	40	85.55	С
49.50	40	56.30	D
53.00	162		Total
	Н (сс	orrected for ties)	27.698
	d.f.		3
	p-val	ue	4.20E-06

The results of Kruskal Wallis Test for MT

Median	n	Avg. Rank	Cluster
32.00	42	122.70	A
29.00	40	109.73	В
17.00	40	41.86	С
17.00	40	49.65	D
22.50	162		Total
	Н (со	rrected for ties)	94.053
	d.f.		3
	p-val	ue	2.95E-20

The results of Kruskal Wallis Test for TT

Median	n	Avg. Rank	Cluster
20.00	42	108.60	A
19.00	40	99.71	В
14.00	40	50.71	С
16.00	40	65.63	D
18.00	162		Total
	Н (со	rrected for ties)	42.087
	d.f.		3
	p-val	ue	3.85E-09

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