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The Levers of Management Control System in Organizational Life Cycle Saarce Elsye Hatane* Business Accounting

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—This paper discusses the application of management control system (MCS) in each stage of 30

organizational life cycle (OLC). MCS is described using

Simon's (1995) levers of control (belief, boundary, interactive, and diagnostic control 1

system). This study explains OLC in 4 stages, namely birth, growth, maturity, revival, and is measured using 8 indicators (environment uncertainty; the

influence of board, owners and shareholders; decentralization of authority; strategic planning; diversification; marketing and distribution; innovation; managers' focus on decision making). 2

This study is conducted on 37 limited liability companies in Indonesia by distributing questionnaires in the form of Likert scales to managers. The data is processed using Compare Means One- Way Anova. The results indicate that belief, boundary and interactive, diagnostic control system

are used to a greater extent in revival 1

stage. This paper provides information for managers about type of controls are often used in each of the OLC stage, thus managers are able to decide the right MCS in managing the strategy for the company. Keywords—organizational life cycle, management control system, levers of control I. INTRODUCTION Dynamic organizational characteristics have been modeled in various stages of the life cycle. Previous research has found that various organizational characteristics, such as

size, age, and strategy, often follow certain patterns, making it possible to group organizations into various stages of the life cycle 4

[1].

The stages in organizational life cycle (OLC) reflect the level of 40

organizational development, where each stage reflects integral complementarity. This can be seen from the simultaneous development of various contingent variables that are used as a measurement tool for each stage in OLC [2,3]. Dynamic configuration form by grouping organizations into various stages of development, based on

four contingent variables (organizational situation, strategy, structure and decision-making style) [2]. These are the OLC stages, consisting of birth, growth, maturity and revival. 1

Birth itself is the earliest stage in the OLC and the period where a company is starting its business to become an entity that can survive in the market. The second stage is growth, the period that occurs when a company has established a unique competency and enjoys success over the initial product or market.

Maturity occurs when a company is more mature, from a stable level of sales to a bureaucratic organizational structure. And finally, revival, market and product diversification and expansion usually occur at this stage. On the other hand, the organization

is a group of people who work together **to achieve** the **common** 39

goal. Managers have to make sure that their subordinate behavior is beneficial or has an impact on the organization in order to achieve the goals [1]. Managers monitor the process using Management Control Systems (MCS) as tools. Most of the literature discusses MCS by focusing more on examining the presence, character and or importance of controls, but lacking focus on examining the way in which control is used [4] and its impact on the organization's financial performance. Strategies emerge through experiments that are influenced by MCS [5]. Based on that perspective, MCS is important to be applied in organizations because MCS can influence the development of strategies. Many previous studies have recommended studying all components of MCS as an inseparable package [4,6]. However, many studies only focus on some MCS components, or on certain MCS measurements. This is because of the

fact that the data needed **to study** a fully complete **MCS can be very** 4

wide. Therefore, MCS becomes difficult to analyze. The implication is that this limitation has the potential to produce diverse and possibly contradictory research results [7]. There have been many previous studies that measured MCS using a lever of controls initiated by Simons in 1995 [3,4,8-11]. The

four levers of control are belief, **boundary, diagnostic and interactive.** 9
Most studies of **management control systems**

have focused on interactive and diagnostic 3

control systems [4,8-11]. Compared to the other two, interactive and diagnostic control pay attention more in the relevance of the way where control is applied [8]. In previous studies suggest that interactive control and diagnostic control allow different comparisons of control in the way they are used [3,12-14]. Learning from the limitations of the results of previous studies that focused more on interactive and diagnostic control, this study measures MCS by using all

four levers of control. The aims **of this research** 37

is

to contribute to the existing **literature by examining the** relationship between **the** four stages **of** 21

organizational life cycle from the **Miller and Friesen model** 44

in 1984 [2]

(birth, growth, maturity and revival) to **the** 2

levers of control of the Simons in 1995 [15] (belief, boundary, diagnostic control and interactive control). From the background above, this research has the following problem formulation: Are there differences in the application of levers of control in

> **each stage of the organizational life cycle? This** research is useful **for** management to increase **the** 23

company's awareness of the importance of levers of control at every stage of OLC. This knowledge can provide insight for management to be able to use the appropriate levers of control for each

> **stage of the company's** organizational **life cycle.** II. **LITERATURE** REVIEW AND HYPOTHESIS **A.** 31

> **Organizational Life Cycle The concept of the** organizational **life cycle** 14

model was introduced by [16] which explained that changes in the organization follow a pattern that is consistent and predictable, and characterized by different stages of development. When companies change over one to another stages, they will experience different structural configurations, problems, organizational characteristics, and strategic or management priorities [17-19]. The OLC theory states

> **that organizational characteristics such as** structure, strategy, **leadership** style, **critical development areas and** the company's **environmental conditions vary** 16

> **at each stage** in **the organization's life cycle** 12

[20-24]. From research conducted by [2], introducing a model for the life cycle of an organization or company, which can be classified

> **into five stages,** namely **birth, growth, maturity, revival and decline.** The **model was chosen** because **it covers** all organizational **life from birth to death and has been empirically tested and supported in the** 2

organizational life cycle literature [2,25-28]. In addition, the Miller and Friesen OLC models provide quantitative measurements

> **at the** stage **of the organizational life cycle. In** the first four **stages, the** 24

size and age of the organization, as well as its environmental competitiveness, increase. Whereas in the last stage, there is a decline in profitability and the company, and the market also decrease. Stage decline is not used in research because at this stage, organizations are difficult to identify through survey instruments because change occurs metamorphically and cannot be predicted [23,29,30]. Therefore, in this study four initial

stages of the organizational life cycle are 45

used. B. Levers of Control

(Management Control System) Management control system is explained **as** 11

formal systems and

procedures that use information to maintain or change **patterns** of **activity** within **the** 22

organization [31]. The management control system represents the organization's desire to achieve its goals by providing

information that is useful in **decision making, planning and** performance **evaluation** 27

[32-34].

There are four types of management control systems **that** work **together as levers of control (LOC),** namely belief, **boundary,** interactive and **diagnostic control systems.** 7

This LOC must be used equally to execute the effective strategy [15,35,36]. The relationship between the

use of control systems throughout **the** organizational **life cycle is** 36

based on

upper echelon theory which shows **that management** acts based **on** their personal interpretation **of** 1

the strategic situation they face [37]. This research applies the stage of organizational life cycle

as a proxy of"strategic situation"**and examines how organizational** situations, strategies, structures **and decision- making styles** 1

influence the selection of management approaches to use controls [28]. 1) Boundary Control in Organizational Life Cycle When organizations are in the life cycle of birth, organizations will focus on developing and innovating product lines. Organizations tend to be more proactive towards competitors by creating new products and practices to defeat competitors, thus encouraging organizations to take big risks. On the other hand, if the company uses boundary control, it will create a system of policy boundaries and guidelines to limit

the search for opportunities. Boundary control **systems** is **used to** 38

avoid risk by setting

limits and enforcing rules such as, **codes of conduct, strategic planning systems, operating** 7

directions [38]. At the growth stage, the structure gets more complex and less centralized. Hence, the organizations need managers' analytical skill to make decisions since there are more factors to be considered [28]. This situation brings about risks for organization, such as subordinates behave for their own interests. Subordinates will have increasing freedom since decision making is delegated to them [36]. At the growth phase, boundary system is used to prohibit managers from some activities [1]. Even though, organization needs to empower their employees in growth stage, that doesn't mean the organization

can do anything **they** like. **There must be guidelines that clearly state the** type **of behavior that** is **prohibited,** and **these must come from senior managers, who** responsible to determine **the** type **of** dysfunctional behavior **that** has the potential **to** damage **the organization.** 5

In the maturity stage, the organization does not pursue diversification and innovation, but emphasizes improvements in productivity and efficiency. This makes the

product scope narrower **than in the growth stage** [39]. **Emphasis on productivity and efficiency** 2

goes hand in hand with decision making styles that are

less innovative, less proactive and more risk averse 10

[28,39,40]. Reference [36] argues that the diagnostic control system approach has

an important role in achieving **organizational** efficiency **and goals.** This indicates that **the** 33

diagnostic control system is more suitable for use than the boundary

control system. Thus, **the use of the** boundary **control system** 43

is expected to be used at **a** lower level **in the maturity stage than the growth stage.** At **the revival** stage, organizations have **the** 1

greatest size, environmental change and higher competitive levels, as well as the most dispersed ownership among all

stages of the organizational life cycle. Organizations generally **focus on** 42

significant diversification and innovation in products and markets, 1

as well as expanding the market for their products to achieve new turnover and growth among highly competitive markets [39]. Organizations tend to implement a differentiated strategy that requires more creativity in competing. This is in accordance with the use of the boundary approach, because the purpose of the boundary system is to enable employees to have freedom to innovate, explore, create and achieve certain standards [36]. It is also supported by [41], although the boundary system explains business guidelines, it can be used in conjunction with the boundary control system to enhance creativity. Organizations at the revival stage have performed more formal analysis in decision making. This

decision-making style tends to be more flexible and analytical so that it can **mitigate high-level** 2

risks, such as increasing market heterogeneity. Organization overcomes that risk using the

authority over operating decisions that are **delegated to each** 2

section of the organization structure. Also, the performance of each division is a responsibility of the division manager [39]. For this reason, boundary control is used at this stage to

empower employees to use their own judgment **and** wisdom to make **decisions** and innovate **new** 8

ideas. Even though the limitations are stated in the work, this limitation can help achieve flexibility and creativity. Since the subordinates comply with the boundaries, the

managers can allow subordinates to make their own **decisions without** 4

managers' role [1].

In this condition, **boundary** control **can** involve **both** in **operational effectiveness and employee creativity** which is increasing **the company's competitiveness.** 15

Thus, the use of boundary control is used at

a greater level **in the revival stage than the maturity stage.** 1

Therefore, this study argues that the boundary control system approach will

be used at **a greater** level **in** the **growth** stage **and revival** rather **than birth and maturity** in **the** 1

organizational life cycle stage. H1: Boundary control system

is expected to be applied in the **greater extent** at **growth and revival** stages **than** at **birth and maturity** stages in **the** 1

organizational life cycle. 2) Belief Control in Organizational Life Cycle Creativity arises when management is encouraged to be more maximal, and when the task is not coordinated in a systematic way but 'frantic'. In the birth period, the company is structurally and financially unstable, and the decision-making process is simple and fast, the leader or the owner is responsible for everything [42]. This indicates that in the birth stage there is still no

formal system used by managers **to define, communicate the** company's **core values** 26

to give inspiration and motivation for employees to take appropriate actions. In addition, decision making is still centralized. Thus, the belief control system is still less used when at the birth stage. Reference [15] notes that belief control systems, such as formal values, usually appear

in the growth stage **after the introduction of** the **boundary** 4

system. As long as the organization is

at the growth stage, the focus of the organization **is** 25

to pursue rapid sales growth [2]. In [43], said that the vision of the founder of the company can help attain growth quickly. The company is growing fast either by acquiring new units through acquisitions or by building new units [1]. In addition, organizations that are at the growth stage will continue to strive to dominate the market. The organization will use analysis and strategies to continue to achieve certain growth targets [2]. This, of course, requires a belief control system to continue to motivate employees to achieve these growth targets. According to [15], belief control system, through its mission and vision, can be used to establish a guideline in work targets, as well as regulate the behavior of employees who are in pursuit of these targets. Thus, the use of the belief control system is more applicable to a higher life cycle than birth. Organizations in the maturity stage are conservative. They don't do many big innovations. Therefore, the maturity stage shows that decision-making styles are

less innovative, less proactive, and more risk averse than in other 10

phases. Organizations focus more on solving problems immediately and give less emphasis to formulating strategies explicitly [2]. According to [15], the use of belief systems when organizations seek opportunities and plan strategies. Therefore, the use of belief system is used at a lower level

in the maturity stage than the growth stage. The 1

decision-making style at the revival stage is an innovative, proactive, and risk-taking style. The company pursues rapid growth through innovation, acquisition, and diversification and this involves a lot of risk taking. It also encourages leaders to be more innovative than imitating competitor strategies [15]. This creates a lot of strategic changes, so the belief system is needed. Reference [35] claims that for organizations facing

strategic change, belief systems are important for communicating core visions and values. This is in accordance with [1] which states that formal belief

> **systems such as official** missions **and vision statements are implemented** 4

when organizations are increasingly mature. For this reason, the use of belief systems is used at a higher level of life cycle, which are at the stage of maturity and revival. H2: Belief control system

> **is expected to be** applied in the **greater extent** at **growth and revival** stages **than** at **birth and maturity** stages in **the** 1

organizational life cycle. 3) Diagnostic Control in Organizational Life Cycle Reference [15, 36] suggested that to confirm the effective diagnostic control system approach, organizational goals, and strategies, the keys of success must be explicit enough to set the correct outcome measurement. The organizations in birth stage go through an uncertain environment as they try to create produce in new markets [2]. This makes it difficult for organizations

> **to set clear goals, strategies and success** key. Therefore, a **diagnostic approach is not expected to be used** 1

more frequently at the birth stage [28]. When organizations shift to the

> **growth stage, there is a risk that** employees **act in their own** 1

importance since they have rights to make decision. The diagnostic approach is used to follow the progress of achieving goals and monitor results. Therefore, a diagnostic approach can be used to restrict undesirable manner to a certain level, in order to achieve organizational goals. Moreover, the

> **diagnostic approach does not require** as much as **management attention** 3

compared to interactive approaches. Hence, managers can

> **focus on more important decision-making activities,** like **organizational long- term planning. However, the** 1

growth stage tends to be more competitive and uncertain environment. It results difficulty to define the expected output

> **accurately, which** interfere **the use of** a **diagnostic approach** [36]. **Therefore,** similar **to the birth stage, the diagnostic approach is not expected to be used** 1

in the

> 1

growth stage. When organizations are in the maturity stage, they have slower growth 1

compared to growth stage. In maturity stage, 47

organizations emphasize on production efficiency, since the environment is relatively stable. [44] argue diagnostic approaches are

more effective in situations where the environment is stable, whereas 1

[36] argues that the diagnostic control system approach is an important role in achieving organizational efficiency and goals. As mentioned that organizations in maturity stage have relatively stable environment (Miller and Friesen, 1984. Organizations can easily establish goals and desired outcomes, in order to ensure effective use of diagnostic approaches. [15,36]. Furthermore, the maturity stage company has a highly structured communication channel,

hence the use of a diagnostic approach is 3

more appropriate [11]. Therefore, the

diagnostic approach is expected to be used more frequently in the 1

maturity stage than at the stage of birth and growth. In the maturity stage, 1
organizations focus on big innovation and large diversification than the maturity stage. Top management tends to

focus more on strategic issues, in order to overcome heterogeneous, competitive and dynamic environments. The diagnostic control system approach helps

management attention by relying on exception reporting to monitor results and review critical performance variables [36]. However, 1

[45] argues that the diagnostic approach prevents employees to be creative, even though organizations need some innovation.

This argument is supported by [15] who asserts that the diagnostic approach 1

restricts the search for opportunities

and innovation. Thus, the diagnostic approach is expected to be used for a lower level in the revival stage than in the maturity stage. 3

Finally, this study argues

that the diagnostic control system approach will be used more in 34

the maturity and revival stages. Thus, the 17

following hypothesis is developed: H3: Diagnostic control system

is expected to be applied in the greater extent at maturity stage than at birth, growth and revival stages in the 1

organizational life cycle 4) Interactive Control in Organizational Life Cycle Organizations in the birth stage have

a centralized structure and top management makes all key decisions 1

[2]. Therefore, organizations in the growth stage may requires fewer sharing information and interaction between employees. Moreover,

top management in the growth stage is likely to focus on operational problems more than managerial problems. According to the concept of interactive 1

control which requires

face-to-face meetings at different hierarchical, interactive control approach is 3

considered inappropriate for the birth stage [28]. Organizations in growth stage have a function-based structure. Hence, every department gets an important role in improving coordination and facilitating collaboration [2]. As a result, an interactive control approach that focuses on the interaction and ongoing exchange of information between different levels of management and in various functions [8,44], is highly important. According to the concept theory that

growth stage is an innovative stage. Hence, the use of interactive approaches will assist 1

organization to encourage the formation and collaboration of knowledge in the organization [11]. This is consistent with the arguments of [4] the use of interactive approaches can generate innovation, fresh

ideas, and initiatives. Therefore, the interactive approach is expected to be used 1

more frequently in the

growth stage than in the birth stage. When organizations are **in maturity stage,** 1

there is an effort by top management to take over the decision making that was previously delegated to subordinates when the organization is in the growth stage. This condition depicts that subordinates don't have much contribution in decision making [2]. Align with interactive approach theory, decisions made by managers from various levels, is less used. Furthermore, when organization is in the maturity stage, it means they are in a relatively stable environment. Hence, managers in organizations have less frequency of debates and discussions about unstable

environment. Therefore, the interactive approach is expected to be used at **a** 1

lower maturity level than in the growth stage [28]. Organization must be able to overcome the slow growth and bad performance in revival stage. In order to achieve new turnaround and growth, organizational revival stages only focus on significant products, market diversification and innovation [2]. Reference [15] states that interactive approaches are very useful for organization in innovations, while [2] suggest that organizations must have ability to understand threats and opportunities in competitive and uncertain environment. In addition, [46] asserts that interactive approaches allow management at various levels to involve in frequent discussions and debates, thus helping companies to put themselves in unstable and

uncertain environment Therefore, the interactive approach is expected to be used 1

for levels that are more often

in the revival stage than at **the maturity stage.** 17

As stated in the following hypothesis, this study expects **the interactive** control system **approach to be used** 1

more

in the growth stage **and revival than the** stage of **birth and maturity** 1

in organizational life cycle. H4: Interactive control system

is expected to be applied in the **greater extent** at **growth and revival** stages **than** at **birth and maturity** stages in **the** 1

organizational life cycle. III. METHODOLOGY Figure 1 shows the analysis model in

this study. It **is** used **to** analyze **the** application **of management control system** (MCS) **in** 11

each

stage of organizational life cycle (OLC). Data **is** collected **by** 14

using questionnaire, and it is examined in the model by employing the independent sample t-test. The sampling technique is a non-profitability technique with the several criteria as follow: a). The company has a minimum life of 5 years. This criterion is intended to ensure that the company has been established for a long time so that it has information and systems that are in place. c). The number of employees at least 50 people. This criterion is to ensure the size of the company is feasible to have management organizational systems and information distribution. d). The minimum position of the respondent is in the level of supervisor or manager. This is to get valid and reliable information about the organization. Belief System Birth H1 H2 Boundary Growth OLC MCS System (Loc) Maturity H3 Interactive System Revival H4 Diagnostic System Figure 1 Research Model. This study is conducted on 37 limited liability companies in Indonesia by distributing questionnaires in the form of five Likert scales to the managers. The questionnaires are adopted from previous researches by [3] for OLC and [47] for MCS. There are several steps to analyze data to avoid misinterpretation of data obtained. Data analysis techniques consist of validity test, reliability test and hypothesis test and the data are processed using

Compare Means One-Way Anova. IV. FINDINGS **The** 50

companies

as the unit of analysis in this study 41

are limited liabilities companies. The total sample of this study are 37 companies spread in East Java and Jakarta, 27% in the form of listed companies, and the rest are non-listed companies. Most of the respondents come from the manufacturing industry by 37.8%, followed by the trade industry by 21.6%, and the rest came from other industries, such as service and construction industries. The respondents mostly occupy positions as managers, that is equal to 43.2%, followed by supervisors at 29.7%, and other positions such as directors. TABLE 1 Respondents' Perception about OLC and Validity Items The Organizational Life Cycle Indicators Mean Total Corrected Item-Total Correlation Environment uncertainty Dynamism 3,92 0,643 Hostility 4,05 0,7 Heterogeneity 3,84 0,766 The

influence of board, owners and shareholders Board **of** Directors' Influences **4,** 2

35 0,709 Owners or Shareholders' Influences 4,08 0,778

Decentralisation of authority Participative management 3, 95 0,695 **Effective internal communication systems 3,** 73 0,683 **Delegation of decision-making 3,** 78 0,728 **Proactive decision-making** 6

3,7 0,675 Strategic planning Action planning 3,81 0,922 Scanning 3,65 0,926 Diversification Use acquisition to diversify 3,38 0,857 Engages in vertical integration 3,59 0,435 Marketing and distribution Frequent product innovations 4,03 0,774 Dominates distribution channels 3,7 0,643 Extensive advertising and promotional expenditure 3,32 0,616 Provides different product line 3,59 0,581 Innovation Incremental product innovations 3,38 0,755

Selective in respect to the introduction of new products	1

3,81 0,737

Managers' focus on decision making Centralisation of strategy formulation	6

3,84 0,769 Extensive analysis of major decisions 3,97 0,769 Multiplicity of decisions 3,86 0,829 Integration of decisions 4 0,744 Futurity of decisions 4,14 0,845 Consciousness of strategies 3,95 0,859 Adaptiveness of decisions 3,86 0,765 3,83 TABLE 2 Respondents' Perception about MCS and Validity Items The Lever of Controls as Management Control System Indicators Mean Total Corrected Item-Total Correlation Belief System Mission statement 4,03 0,851 Core Values communication 3,84 0,859 Awareness of Workforce on core values 3,7 0,842

Mission statement inspires our workforce 3, 65 0,	46

811 Boundary System

Firm relies on a code of business conduct	8

3,89 0,87 Firm has a system 3,89 0,837

Firm's code of business conduct	48

3,78 0,915

Code of business conduct informs behaviours	49

3,78 0,88 The interactive use of control Controls

as a tools of developing action plans	3

4,14 0,748 Controls are used regularly 4,05 0,759

There is a lot of on-going interaction	1

3,92 0,665 Controls generate information 4,11 0,909

Controls are used to discuss changes	2

4,03 0,839

Diagnostic use of controls Controls are used to track progress	1

4,16 0,858 Controls are used to develop tactical plan 4,16 0,868

Controls are used to review performance	**3**

4,19 0,889 Controls are used to take appropriate actions 4,08 0,887 3,95 TABLE 3 Reliability and Heteroscedasticity Result Cronbach's Alpha Levene's Test Test Belief 0,836 0,127 Bonferroni Test Boundary 0,842 0,216 Bonferroni Test Interactive Control 0,812 0,632 Bonferroni Test Diagnostic Control 0,842 0,667 Bonferroni Test Table 1 shows that all the items in OLC measurement have higher correlated item values (higher than 0.3), which indicates that the items are valid. The respondent perceptions imply all observed companies are

in the growth to **revival stages** in their **organizational life cycle.**	**35**

Table 2 shows that all the items in MCS measurement have higher correlated item values (higher than 0.3), which indicates that the items are valid. The respondent perceptions imply all observed companies apply each of levers of control proportionally. As

shown in Table 3, **the Cronbach's Alpha values** have met **the**	**29**

standard, which is higher than 0.6. It indicates that all items are reliable. The Levene's numbers indicate that all indicators in MCS meet the homoscedasticity standard (the test > 0.05), thus the Anova tests are all in the form of Bonferroni Test. Based on the table 4, the boundary control is

used to a greater extent in revival stage	**1**

for all organisational life cycle indicators. It reflects from the mean difference between growth to maturity and growth to revival, which is growth to revival is bigger. Also, the use of boundary control has the biggest significance for environment uncertainty followed by strategic planning, innovation, and diversification. For market and distribution, boundary control is not significant in every stage, it means that boundary control is used equally in every stage. It reflects form the mean difference between every organizational stage which is not significantly different. The reason for boundary system is used to a greater extent for environment uncertainty because the boundary system overcomes heterogeneity, such as the

differences in competitive tactics, customer tastes, product lines, and channels of distribution.	**18**

In revival stage boundary system can be used to help employee innovating in the midst of business competition. While boundaries are in the work environment, those boundaries are able to

achieve flexibility and creativity. As long as employees follow **the boundaries,** they **are**	**4**

allowed to make their own decisions without the role of managers. Boundary control contributes for

operational effectiveness and employee creativity, moreover **enhancing company competitiveness**	**8**

[1]. Regarding to the discussion, H1 is partially accepted. TABLE 4 SPSS Test of Boundary Control System Boundary Env. Control Uncer Strat. Plan Divers. Mark & Dis Innov G -1.1563 -0.875 -0.3333 -1.0938 B M -1.2917* -0.8465 -0.65 -1.4583* R -1.8889* -1.4167* -0.9643 -1.5500* G M -1.6000* -0.1354 0.0285 -0.3167 -0.3646 R -1.9107* -0.7326 -0.5417 -0.631 -0.4563 M R -0.3107 -0.5972 -0.5702 -0.3143 -0.0917 Based on the table 5, the belief control is

used to a greater extent in revival stage 1

for three organisational life cycle indicators. Those are environment uncertainty, strategic planning, market and distribution. Also, the use of belief system has the biggest significance for strategic planning, followed by innovation, market and distribution, and environment uncertainty. For diversification indicator, belief control is not significant in every stage with the same explanation as before. The reason for belief system is

used to greater extent in revival stage, 3

is organisation needs to do market expansion and new growth in the midst of competitive markets. Therefore, the decision-making style is required to be innovative, proactive, and risk-taking action to obtain a rapid growth through innovation, acquisition, and diversification. Other studies stated that belief system use

to inspire and motivate employee **to search, explore, create, and** 32

strive to act correctly [16]. Also, organization needs to identify challenges and opportunities in external environment with a new strategic planning. Hence, it creates many strategy changes and causes an organization uses belief system. Moreover, [1] claims that formal belief system such as, vision and mission which are implemented in a mature organization. Regarding to the discussion, H2 is partially accepted. TABLE 5 SPSS Test of Belief Control System Belief Env. Control Uncer Strat. Plan Divers. Mark & Dis Innov G -1.6250* -0.125 -0.7292 -1.6875* B M -1.9444* -0.5395 -1.2500* -2.1875* R -2.5972* -1.0556 -1.7054* -2.1083* G M -1.0917* -0.3194 -0.4145 -0.5208 -0.5 R -1.6667* -0.9722* -0.9306 -0.9762 -0.4208 M R -0.5750 -0.6528 -0.5161 -0.4554 0.0792 Based on the table 6, diagnostic control is

used to a greater extent in revival stage 1

for all

organisational life cycle indicators. **The use of** 2

diagnostic control has the biggest significance for strategic planning, followed by innovation, diversification dan environment uncertainty. It means that while the organisation establishes a strategic planning and identifies opportunities and challenges in the external business environment, organisation needs diagnostic control as a monitoring tool. Based on the result above, it concludes that H3 is rejected, because the diagnostic control system is

used to a greater extent in the revival stage **compared to** 6

other stages. This is in accordance with previous researcher [28], though it is partially accepted. TABLE 6 SPSS Test of Diagnostic Control System Diag. Env. Control Uncer Strat. Plan Divers. Mark & Dis Innov G -0,6875 -0,7083 -0,3750 -0.9688* B M -1.2361* -0,6491 -0,2625 -0.9375* R -1.6389* -1.1667* -1.0357* -1.5667* G M -0,4250 -0.5486* 0,0592 0,1125 0,0313 R -1.1071* -0.9514* -0,4583 -0.6607* -0.5979* M R -0.6821* -0,4028 -0.5175* -0.7732* -0.6292* Based on the table 7, interactive control is

used to a greater extent in revival stage 1

for all

organisational life cycle indicators. The use of 2

interactive control has the biggest significance for environment uncertainty indicator, followed by strategic planning, innovation, dan market and distribution. It shows that in environment uncertainty, organisation needs interactive control to involve interaction and communication within the company to put organisation in a

better position in a dynamic and uncertain environment 1

[46]. It can be concluded that H4 is partially accepted, and in accordance with previous studies [4,7,8,11,28,46]. From the findings, it can be concluded that organisation, with high levels of uncertainty environment and strategic planning, uses more interactive control. TABLE 7 SPSS Test of Interactive Control System Interac. Control Env. Uncer Strat. Plan Divers. Mark & Dis Innov G -0.4750* -0,3667 -0.7000* -0.9250* B M -1.1889* -0.6632* -0.5900* -0.8333* R -1.5111* -1.0222* -1.1429* -1.4267* G M -1.6000* -0.7139* -0.2965* 0,1100 0,0917 R -1.9107* -1.0361* -0.6556* -0.4429* -0.5017* M R -0,3107 -0.3222* -0.3591* -0.5529* -0.5933* V. CONCLUSION The results indicate that belief, boundary,

interactive, and diagnostic control systems are used at a greater extent in the revival stage in all stages of the 1

organizational life cycle. The

use of boundary and interactive control systems is the 9

most significant for environment uncertainty. It shows that in uncertain environment, such as customer tastes and unpredictable production technology, increasing competition intensity and external influences, as well as

differences in competition tactics, customer tastes, product lines and corporate distribution channels. With the existence of 20

a boundary control system, organization can provide restrictions and rules for employees in finding, exploring, and experimenting with environmental uncertainty. This serves to keep the organization in an uncertain condition, and employees can still obey the rules.

On the other hand, the use of interactive control systems makes organization 5

engage in interaction and communication within the company to put them in a

better position in a dynamic and uncertain environment. The 1

use of belief and diagnostic control system has the 3

greatest significance for strategic planning. For companies that do strategic planning and

identification of challenges and opportunities in the external business environment, 1

the belief control is needed by the company. When the external environment of the company becomes more competitive, the company will entrust the task to employees to create new strategies than to copy competitiveness strategies. The company will control through the vision, mission and values of the company in order for the strategy is in line with the company's desires. On the other hand, the diagnostic control system also plays a role in monitoring and evaluating the strategies to continue to survive in a competitive environment. This research is expected to help managers to gain insight into the types of controls that are often used in

each stage of the organization's life cycle 12

in order to help managers make the right decisions in managing strategies in the company. With the results obtained from this study, managers can determine the right controls to be applied in the company. Although, companies often find it difficult to determine organizational life cycles, companies need to be more aware of developments in the company and managers can classify companies into the

stages of the organization's life cycle based on the 28

available criteria. This research is expected to be able to be an additional literature reference for the next researcher, despite the limited data and scope contained in this study. REFERENCES [1] Kantola, T. (2017). Management control systems during early life cycle phases a case study in the social and healthcare services sector. Master's thesis, Aalto University Master of Business, Helsinki, Finland. [2] Miller, D. and Friesen, P. H. (1984). A longitudinal study of the corporate life cycle. Management Science, vol. 30, no. 10, pp. 1161- 1183. [3] Su, S., Baird, K., and Schoch, H. (2015). The moderating effect of organisational life cycle stages on the association between the interactive and diagnostic approaches to using controls with organisational performance. Management Accounting Research, vol. 26, pp. 40-53. [4] Ferreira, A. and Otley, D. (2009). The design and use of management control systems: an extended framework for analysis. Management Accounting Research, vol. 20, no. 4, pp. 263-282. [5] Antony, R. N. and Govindarajan, V. (2011). Management Control System (12th Edition). Jakarta: Salemba Empat. [6] Malmi, T. and Brown, D. A. (2008). Management control systems as a package-Opportunities challenges and research directions. Management Accounting Research, vol. 19, pp. 287-300. [7] Chenhall, R. H. (2003). Management control system design within its organizational context: Findings from contingency-based research and directions for the future. Accounting, Organizations and Society, vol. 28, no. 2-3, pp. 127-168. [8] Bisbe, J. and Otley, D. (2004). The effects of the interactive use of management control systems on product innovation. Accounting, Organizations and Society, vol. 29, no. 8, pp. 709-737. [9] Davila, T. (2000). An empirical study on the drivers of management control systems' design in new product development. Accounting, Organizations and Society, vol. 25, No. 4/5, pp. 383-409. [10] Kober, R., Ng, J. and Paul, B. J. (2007). The interrelationship between management control mechanism and strategy. Management Accounting Research, vol. 18, no. 4, pp. 425-452. [11] Henri, J. (2006). Management control systems and strategy: A resource- based perspective. Accounting. Organizations and Society, vol. 31, no. 6, pp. 529-558. [12] Merchant, K. A. and Otley, D. T. (2007). A review of the literature on control and accountability. In Chapman, C.S., Hopwood, A.G. & Shield, M.D. (Eds), Handbook of Management Accounting Research, Elsevier, Oxford. [13] Langfield-Smith, K. (1997). Management control systems and strategy: a critical review. Accounting,

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