
Effectuation: exploring a moderating role between leadership and management innovation

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Abstract: The competitive business environment today is constantly calling firms to innovate for sustainability. This need reforming the way they operate, manage and develop themselves. Nevertheless, flexible firms can easily understand and adapt to the drivers of innovation to reach a higher rate of sustained success. The aim of this study is to identify the role of leadership with its two types: transformational and transactional as an aid to manage innovation and identify effectuation as a moderator to this relationship. Furthermore, the aim of the current study is to find out whether effectuation can enhance the potential moderating role between transformational and transactional leadership with management innovation and thus can be considered a development to the theory of effectuation. The data is collected from 314 complete and usable surveys in the service industry and analysed for CFA correlations and SEM. The results reveal that transformational leadership is positively correlated to transactional leadership, effectuation, and management innovation.

Keywords: effectuation; leadership; management innovation.

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1 Introduction

As the workforce changes, organisations should change too! This change is not limited to delivering new products and services only, but also introducing new ways of management in organisations. For this reason, the basic tenets of leadership are pivotal for our organisations to succeed and reach its competitive advantage (Teece, 2007).

The concept of management innovation is not recent. It began with Chandler (1962), and continued with Mol and Birkinshaw (2008). The two researchers pointed to the important role of management innovation in providing creative ideas to leaders and

organisations as well. As a result, some researchers consider management a key for innovation (Mol and Birkinshaw, 2006; Hamel, 2006, 2007; Birkinshaw et al., 2008). Furthermore, management innovation is defined by the latter as “the generation and implementation of a management practice, process, structure, or technique that is new to the state of the art and is intended to further organizational goals” (p.829). The researcher uses the word ‘new’ to refer to management innovation as creative to the current business world.

After reviewing the literature, the authors of the current paper find that there is scarcity in examining the antecedents of management innovation. Consequently, the aim of this study is two folded: First, to shed light on the role of transformational and transactional leaders in the service industry and in stimulating innovative thinking in organisations (Zhou and George, 2003). Second, to examine whether there is a relationship between the resources of the company and its complexity.

This is why, effectuation is studied with a special emphasis on its moderating role between transformational and transactional leadership with management innovation. Sarasvathy (2001b) predicts a better performance when using the effectual concept. Thus, studying these constructs within a causal model will contribute in enhancing the relationship between these variables, and helps in examining management innovation in great detail.

This research paper is organised as follows. The section that follows discusses the framework of the study with the literature review related to each construct presented in the model (see Figure 1) with all the hypotheses. Then, the model is tested by using the structural equation model technique (SEM) introduced by Joreskog (1967), which is considered the most general multivariate method. SEM is a causal model approach that has the capability to examine direct and indirect relationships in a given model without random error.

The current study is conducted in the service sector in Lebanon on a sample of employees. All constructs are borrowed from previous studies and measured on a 5-point rating Likert scale (1 = never, sometimes, most of the time, always, 5 = frequently). Finally, the last part presents the discussion of the findings, implications, limitations, and recommendations for further research.

2 Literature review, hypotheses, and research framework

Scholars warn that leaders today are at a premium as they are responsible for the success of their organisations and for setting the vision of their companies and influencing their followers to achieve this vision. One definition for leadership came as “interpersonal influence, exercised in a situation, and directed, through the communication process, toward the attainment of a special goal or goals” [Tannenbaum et al., (1961), p.24]. Leadership styles have their advantages and disadvantages and their power as well in affecting employees’ creativity, organisational knowledge, and firm innovation (De Jong and Den Hartog, 2007; Aragon-Correa et al., 2007). Therefore, this study will examine two different leadership styles:

- 1 the transformational leadership style
- 2 the transactional leadership style.

2.1 Transformational leadership

This type of leadership is a constant search for inspiration, motivation, and mental skills among team members to go forward in uncertain situations (Bass, 1985). Seaver (2010) adds that the transformational leader is responsible for inspiring and raising his employees to a high level of morality and motivation. Thus, a high level of trust is needed from the leader part and a high level of performance is needed from the employees' part as well. Trust is considered as one of the most important pillars for the success of the leader.

Seaver adds that a transformational leader should use his referent power based on his relationships with others. In the same vein, Bass and Avolio (2000) state that a "transformational leader is known for his charismatic personality, inspirational appeal, and a special belief in his followers". In addition, to the previously related characteristics, Aragon-Correa et al. (2007) introduce another key role of the transformational leader; the transformational leader is in fact responsible for enabling innovative activities in the organisation.

Furthermore, and in the same realm, several studies stress on the impact of leaders to induce innovative activities in the workplace, thus reducing uncertainty for followers and complexity of activities (Peters and Waterman, 1984; Elenkov et al., 2005; Birkinshaw et al., 2008). Moreover, transformational leaders are referred to as being 'internal change agents'; they play an important role in the pursuit of new styles in management innovation (Birkinshaw et al., 2008).

Also, Birkinshaw et al. (2008) find that leadership is not only relevant to management innovation, but also plays "a critical role of human agency" (p.826). Finally, Vaccaro et al. (2012) confirm the positive relationship between transformational leadership and management innovation. Thus, we can elaborate the first hypothesis of the study as:

Hypothesis 1 (H₁) Transformational leadership positively influences management innovation within the organisation.

2.2 Transactional leadership

Transactional leadership will be the second style to be considered. According to researchers, transactional conditional support is the core component for successful leadership performance. Therefore, as defined by Den Hartog et al. (1997) transactional leadership is divided into two dimensions:

- 1 contingent reward
- 2 active management.

Contingent reward is observed when followers comply with their leaders' as a result of exchanging praise, promotions, or rewards.

Consequently, followers' disciplinary action is the result of praise and rewards' exchange or to avoid disciplinary action. Furthermore, transactional conditional reward leadership elucidates expectations and proposes appreciation when objectives are achieved (Podsakoff and Skov, 1982). Other researchers find that through contingent rewards, leaders are obliged to commit to certain 'contracts' with their followers (Bass and Avolio, 1993; Avolio, 1999). As posited by Amabile (1996, 1998), such commitment might lead to hindering creativity (Amabile, 1996, 1998).

The second dimension is active management. This dimension considers that the leader is fully involved with the followers' work and interferes to examine any deviation or mistake in the work provided by followers. Vaccaro et al. (2012) describe the active management dimension as an involvement that: "underscores the way in which change agents, i.e. leaders, can drive the process of management innovation within the organization" [Vaccaro et al., (2012), p.34]. Moreover, Bass (1985) posits that the provision of clear objectives and necessary appreciation are both linked to a good level of performance.

Bass (1985) distinguishes between transformational and transactional leadership and argues that "transformational leadership is more likely to reflect social values and to emerge in times of distress and change while transactional leadership is more likely to be observed in a well-ordered society" (p.154). In his study, Pieterse et al. (2010) argue that the strength of the relationship between transactional leadership and innovation depends on psychological empowerment factors.

He argues that transactional leaders positively affect the performance of their followers and provide them with direction and in-role task performance. Furthermore, transactional leadership inspires followers to act effectively and communicate causing more innovative action. The impact of transactional leadership on employees' creativity can worsen if they are unaware of the work objective. For this reason, low level of psychological empowerment might lead followers to view transactional leadership as demotivating, rigid, and sometimes causing less innovative behaviour (Asfar et al., 2017). Vera and Crossan (2004) find that transactional leaders are very close to the reinforcement and refinement of institutionalised learning where this type of leaders favour management innovation that reduces organisational complexity.

Thus, the second hypothesis of this study:

Hypothesis 2 (H₂) Transactional leadership positively influences management innovation within the organisation.

2.3 *Effectuation*

One definition for effectuation is presented by Sarasvathy (2008, p.227) as a "general theory of decision-making in uncertain situations". The researcher claims that a big number of studies dealing with effectuation are a result of empirical studies of skilled entrepreneurs (Sarasvathy, 2001a). Effectuation emphasises on control rather than prediction in shaping the future, i.e., "to the extent we can control the future we do not need to predict it" [Sarasvathy, (2001b), p.251].

Furthermore, the literature describes effectuation and causation as two different methods. When launching a new venture, entrepreneurs refer to these two different methods. To differentiate between them, researchers refer to effectuation as a set of 'means', while causation is more likely predicting the future that "takes a particular effect as given and focuses on selecting between means to create that effect" [Sarasvathy, (2001b), p.245]. So, the two approaches are completely different from each other. However, effectuation is the main focus of the current study and not causation.

Effectuation is a multidimensional construct with five dimensions representing different approaches to problem-solving and counting on people's creative ideas rather than prediction. As Sarasvathy (2008) states: "effectuation is creating something new

with existing means” (p.21). Sarasvathy and Dew (2005) raise five principles for effectuation: means, design, partnership, affordable loss, and leverage contingency.

Each principle links a particular approach to problem solving related to individual inspiration, not to prediction. As a result, new ventures are examined through the lens of effectuation. Effectuation logic inspires the decision-making process, thus reducing the impact of uncertainty. This study investigates the moderating role of effectuation by introducing means as one of its testable dimensions (Sarasvathy, 2001b).

This dimension is categorised into three groups: who I am, whom I know, and what I know. Relevant resources or ‘Who I am’ is one dimension of the effectual concept that refers to existing competencies and depends on the leader’s identity and is linked with his personal knowledge and networks and will be examined in the current study.

Table 1 presents the different dimensions of effectuation.

Table 1 Basic principles of effectual thought and dimensions

| <i>Issue</i> | <i>Effectual principle</i> |
|-------------------------------------|---|
| View of the future | Design: the future is contingent on actions by willful agents. |
| Givens | Means provide the basis for decisions and new opportunities. Three sub constructs: what I know – whom I know – who I am |
| Attitude toward others | Partnership: build your market together with customers, suppliers and even prospective competitors. |
| Predisposition toward risk | Affordable loss: calculate downside potential and risk no more than you can afford to lose. |
| Predisposition toward contingencies | Leverage contingency: surprises can be positive. Leverage them into new opportunities. |
| Underlying logic | To the extent that we can control the future, we do not need to predict it. |

Source: Sarasvathy and Dew (2005)

2.4 Management innovation

An interesting definition for management innovation is: “generation and implementation of a management practice, process, structure, or technique that is new to the state of the art and is intended to further organizational goals” [Birkinshaw et al., (2008), p.829]. Also, it is addressed as a type of work that is hard to imitate or replicate by others. Thus, leading to sustainable competitive advantage and a new perspective in competitiveness (Mol and Birkinshaw, 2008 Hamel, 2007; Teece, 2007). Management innovation is a new way for making decisions, a new path for success, and a new technique to motivate employees for a better performance, (Hamel, 2006). According to Birkinshaw et al. (2008), management innovation is identified through organisational, fashion, cultural and mental perspective.

The current paper follows Birkinshaw work and examines management innovation close to the rational perspective. This perspective predicts that creative ideas are introduced by innovative people for a better organisational performance. It is good to give *self-managed teams* as an example of management innovation. These teams are responsible for critical decisions and activities in the organisation (Bunderson and

Boumgarden, 2010). Furthermore, *management processes* deal with managers’ daily activities where abstract ideas are developed into strategic planning and where managers are responsible for setting objectives, and meeting shareholders’ needs and demands (Birkinshaw et al., 2008; Mol and Birkinshaw, 2008).

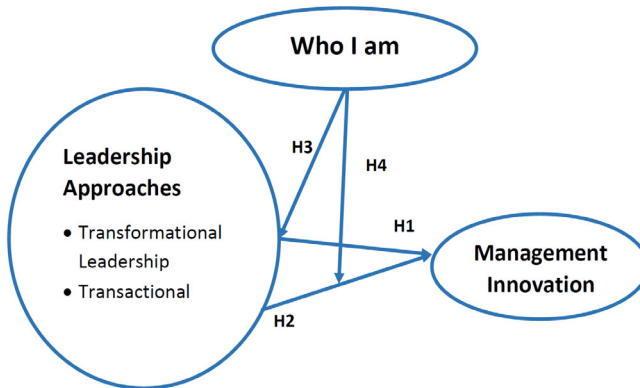
As to *organisational structure*, it is the way organisations communicate with others and leverage effort from employees to enhance organisational performance (Birkinshaw et al., 2008; Hamel, 2007). This is why the paper at hand focuses on the role of human agency in general, and leaders in particular in their prominent role in creating and motivating an innovative context.

2.5 Leadership and management innovation

As mentioned earlier, management innovation is the result of the effective role of leaders in the organization. Researchers refer to the effective role of the CEO and the team leader in introducing new concepts, processes or any new activity in the organization. In the same train of thoughts, Elenkov et al. (2005) point to alternative ways that leaders can influence innovation activity in the company by means of their noticeable position and by their effort to reduce complexity and uncertainty and introduce new trends and activities. Furthermore, leaders’ role is to simplify activities and provide the necessary help and guidance (Vaccaro et al., 2012). The researcher postulates that “these key individuals within organizations are instrumental in identifying new trends in the environment and needs within the organization for which management innovation may be desirable” [Vaccaro et al., (2012), p.32].

Thus, the current study presents transformational leadership, transactional leadership, and effectuation as antecedents of management performance. Also, it explores the effects of transformational leadership and transactional leadership on management innovation, with an emphasis on the moderating role of effectuation in both relationships, between transformation leadership and management innovation, and between transactional leadership and innovation management.

Figure 1 The proposed model (see online version for colours)



Source: Authors’ contribution

Furthermore, this research tests a model that suggests a direct and indirect relationship between transformational leadership, transactional leadership on one side, and ‘who I am’

with management innovation on the other. Testing these constructs with a causal model sheds light on the interrelationship between these constructs, and consequently, explains the different relationships in greater detail. Thus, the third and fourth hypotheses of this study:

Hypothesis 3 (H₃) ‘Who I am’ moderates the relationship between transformational leadership and management innovation.

Hypothesis 4 (H₄) ‘Who I am’ moderates the relationship between transactional leadership and management innovation.

3 Methods: sample and procedure

The sample for this study is extracted from four categories of the population of employees in Lebanon. This random sampling process guarantees the inclusion of employees from different economic sectors. The sector of sales and marketing includes those employed in the sales (floor and outside), marketing and merchandising. The sector labelled back office includes employees from the accounting, human resources, IT, finance and audit departments. The sector labelled manufacturing includes employees from research and development, production and manufacturing, while the sector labelled Engineering includes employees from engineering and construction. The detailed characteristics of the sample are shown in Tables 2 and 3.

Table 2 Sample distribution – gender and age

| Sector | Total # of staff | Gender | | Age | | | | |
|---------------------|---------------------|--------|--------|--------|--------|--------|--------|-------|
| | | Male | Female | 29≥ | 30–39 | 40–49 | ≥50 | |
| Sales and marketing | 201 | 98 | 103 | 92 | 63 | 44 | 2 | |
| Back office | 22 | 9 | 13 | 10 | 5 | 4 | 3 | |
| Manufacturing | 12 | 7 | 5 | 4 | 2 | 1 | 5 | |
| Construction | 38 | 17 | 21 | 23 | 8 | 1 | 6 | |
| Totals | No. | 273 | 131 | 142 | 129 | 78 | 50 | 16 |
| | % | 100% | 47.98% | 52.02% | 47.25% | 28.57% | 18.31% | 5.87% |

Source: Authors

Table 3 Sample distribution – education, work experience and tenure

| Cat. | Education | | Work Experience | | | Tenure | | |
|-------------|-----------|------|-----------------|-----|------|--------|-----|------|
| | No. | % | Years | No. | % | Years | No. | % |
| High school | 24 | 8.8 | 0–3 | 70 | 25.6 | 0–5 | 149 | 54.6 |
| BA/BS | 145 | 53.1 | 3–5 | 75 | 27.5 | 6–10 | 69 | 25.3 |
| Graduate | 104 | 38.1 | 5–10 | 67 | 24.5 | 11–15 | 43 | 15.8 |
| | | | 10–15 | 25 | 9.2 | 16+ | 12 | 4.4 |
| | | | 15+ | 36 | 13.2 | | | |

Source: Authors

3.1 Measures

Multi-item scales are borrowed from other studies, reliabilities of these scales are assessed by Cronbach's alpha, and the structure of the instrument is examined using confirmatory factor analysis (CFA). Meanwhile, questionnaires are examined and used in a pilot study. Thirty employees from the service sector completed the questionnaires and provided helpful remarks. Based on their feedback, the survey undergoes some changes to improve its legibility and guarantee its accuracy and suitability. Then 273 complete and usable datasets are collected from a number of firms in different service sectors of the economy. These sectors include marketing/sales; information technology/internet; research and development; production and manufacturing; administration/management (planning, finance accounting, HR, audit); engineering; and others. Thirty respondents from different manufacturing companies (not included in the genuine sample) completed the questionnaire for the pilot study purpose and provided useful comments to improve the legibility and suitability of the questionnaire. Furthermore, the aim of the pilot study is to examine the validity and reliability of the scales used in the current study. A factor analysis is conducted on the data of the pilot study too. Thus, the results of the study reveal that Cronbach's alpha values for all the constructs are (greater than .685) which are adequate.

- *Transformational leadership* is measured by the multifactor leadership questionnaire (MLQ) scale developed by Bass and Avolio (1990). The transformational leadership scale consists of four items. All items are answered using a five-point response anchor ranging from 1 (never) to 5 (always). To validate the scale, confirmatory factor analysis is conducted ($\chi^2/df = 2$, RMSEA = .061, NFI = .978, NNFI = .955, CFI = .993). As to validity and reliability, the scale reveals a good result ($\alpha = .773$).
- *Transactional leadership* is measured by the MLQ scale developed by Bass and Avolio (1990). The scale is composed of 4 items and is answered using a five-point response anchor similar to transformational leadership scale. Results of confirmatory factor analysis ($\chi^2/df = 1$, RMSEA = .000, NFI = .987, NNFI = 1, CFI = 1). As to reliability, the scale reveals an acceptable result ($\alpha = .671$).
- *Who I am* is measured by a scale developed by Read et al. (2009), using a 5-point Likert scale. The results of confirmatory analysis ($\chi^2/df = 3$, RMSEA = .000, NFI = 1, NNFI = 1, CFI = 1, and scale reliability ($\alpha = .685$) are acceptable.
- *Management innovation* is measured by a scale developed by Vaccaro et al. (2012). The scale is a 5-point Likert scale composed of 4 items. Results of confirmatory factor analysis ($\chi^2/df = 1$, RMSEA = .059, NFI = .979, NNFI = .997, CFI = .997), are acceptable. The scale reveals a reliability of $\alpha = .703$ and reveals the demonstration of management innovation in setting new rules, practices and procedures. Items 1 and 2 (management rules and procedures) tap into new practices of managers. Items 3 and 4 are related to work performance as well as how rewards are set up. Overall, this scale reflects different aspects of management innovation, pointing to managers' activities, as well as the organisational milieu where work is performed (see Appendix for the items used in this scale).

3.2 Analysis

This study uses structural equation modelling (SEM) to assess the fit of the hypothesised model using the AMOS 21 program. Schumacker and Lomax (2004) point to four major reasons to use SEM to assess whether the hypothesised model fit the data or not. “The first reason is that, in the past, researchers used to measure a limited number of variables and the basic statistical models were sufficient. Today, researchers need to examine multiple observed variables in order to realize the best part of their scientific inquiry. The second reason is that SEM considers observed and latent variables, as well as measurement error while analysing data. The third reason is the maturity of SEM within the last 30 years and its ability to analyse a number of complex theoretical models. Finally, SEM software is user-friendly today, thus it is easy to learn via textbooks, workshops, or courses” [Jisr, (2015), p.80].

The fit indices that are used to evaluate the model in this study are χ^2/df , CFI, NFI, NNFI, and RMSEA. The recommended level of acceptable fit for CFI, NFI, and NNFI is 0.90 or more. The chi-square test is the assessment of fit of a specific model as well as the comparison between two models $\chi^2 < 0.05$ (Hair et al., 1998). RMSEA measures the approximate fit. Values lower than 0.08 indicate satisfactory fit, and values lower than 0.05 indicate close fit (Kline, 2005).

3.3 Results

Descriptive statistics and correlations for the variables of this study are presented in Table 4.

Table 4 Mean, standard deviation, and correlation

| <i>Variables</i> | <i>Mean</i> | <i>SD</i> | | <i>1</i> | <i>2</i> | <i>3</i> |
|-----------------------------|-------------|-----------|------|----------|----------|----------|
| Transformational leadership | 3.61 | .82 | | | | |
| Transactional leadership | 3.61 | .78 | R | 0.589** | | |
| | | | Sig. | .000 | | |
| Who I am | 3.46 | .73 | R | .441** | .443** | |
| | | | Sig. | .000 | .000 | |
| Management innovation | 3.39 | .77 | R | .366** | .353** | .364** |
| | | | Sig. | .000 | .000 | .000 |

Note: ** $p < 0.01$.

Source: Authors' calculation

Transformational leadership is positively correlated to transactional leadership, ‘who I am’, and management innovation. Also, ‘who I am’ is positively related to transactional leadership, and management innovation.

Table 5 shows the direct, indirect, and total effects and their level of significance between predictor and the dependent variable in the model. With respect to the predicted path, Hypothesis H₁ and Hypothesis H₂ are supported. Transformational and transactional leadership are significantly and positively related to innovation management. The four predictors of transformational leadership explain more than 76% of variance.

Table 5 Structural model results (direct, indirect, total effects, and R2)

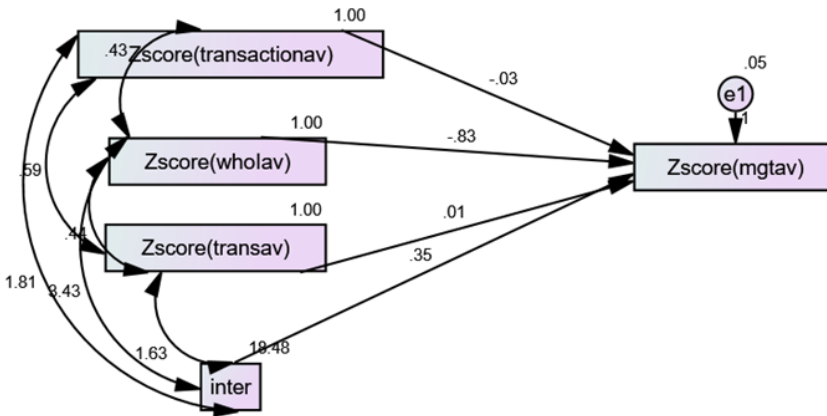
| Path | Direct effect | Indirect effect | Total effect | R ² |
|---|---------------|-----------------|--------------|----------------|
| From transformational leadership to management innovation | .36*** | -- | .53*** | 0.13 |
| From transactional leadership to management innovation | .71*** | -- | .25*** | 0.44 |
| From who I am to transformational leadership | -- | .53*** | .53*** | 0.31 |
| From who I am to transactional leadership | - | .51*** | .51*** | 0.22 |
| From who I am to management innovation | -- | .54*** | .54*** | 0.34 |

Source: Authors' calculation

The four predictors of transactional leadership explain more than 50% of the variance. The five predictors of ‘who I am’ explain more than 70% of the variance. The four predictors of the dependent variable (management innovation) explain more than 65% of variance. As hypothesised, transformational leadership exerts a direct effect on management innovation ($\beta = .53$), and transactional leadership exerts a direct effect on management innovation ($\beta = .25$).

Also, ‘who I am’ has an indirect effect on transformational leadership ($\beta = .53$). ‘Who I am’ has also an indirect effect on transactional leadership ($\beta = .54$), and an indirect effect too on management innovation ($\beta = .54$). In addition, transformational leadership has an indirect effect on transactional leadership ($\beta = .71$).

Figure 2 Moderation effect (see online version for colours)



Moreover, the results of the effect analysis between the variables of the construct are summarised in Table 5. In addition to these direct and indirect effects, we also hypothesised that ‘who I am’ moderates the relationship between transformational leadership (H3) and innovation management and between transactional leadership and innovation management. Figure 2 reveals a significant relationship between transformational and transactional leadership on management innovation in the presence of the moderator (who I am). Furthermore, the interaction effect is specifically significant and the moderating effect of who I am on management innovation is specifically significant. So, H3 and H4 are supported.

3.1 Control variables

In an attempt to gain more potential alternative clarification, we measured some control variables. Some studies suggest that the age of the leader in a company affects the extent to which such companies innovate and respond to change (Wiersema and Bantel, 2016; Vaccaro et al., 2012). So, we included in our model the logarithm of the leader age. Other studies have also highlighted the leader tenure to be negatively related to experimentation and change (Wiersema and Bantel, 2016). Furthermore, we find it interesting to include in our study the logarithm of the leader experience within the organisation.

4 Discussion

While many studies are considering the important role of innovation in organisations, new insights into management innovation should be considered too. The aim of the discussion section is to present the contribution of this study to the literature of leadership and to the literature of effectuation. Furthermore, we draw on the managerial implications, the limitations of this study, and finally we suggest new avenues for further research.

Our research contributes to the literature of leadership regarding the influence of transformational and transactional leadership on innovation management. In this sense, as proposed by Finkelstein (1992) and Vaccaro et al. (2012), we emphasise the role of leaders as internal actors in the corporation. Furthermore, as proposed by Birkinshaw et al. (2008), leaders are capable of implementing new processes, activities, and structures. Prior studies found that leaders are the reasons behind product and organisational innovation (Elenkov and Manev, 2005). The results of our sample show that there exists a direct relationship between transformational and transactional leadership on management innovation, including the moderating role of effectuation.

This study provides evidence that transformational leaders positively affect innovation management. Transformational leaders instil confidence within their team members to face challenging goals and missions in the future. Furthermore, transformational leaders develop trust and enhance self-confidence among their employees.

Although previous studies claim that transactional leadership might negatively affect employees' capability to suggest new ways for management activities (Amabile, 1998; Lee, 2008), this research reveals that transactional leaders make corrective action to overcome obstacles and enhance innovation management in organisations.

These results come in line with Vera and Crossan (2004) that found that transactional leadership can be supportive especially in the implementation phase of management innovation. Alternatively, some studies examine the relationship between transactional leadership and management innovation through trust as a mediator. They find that conditional rewards might be crucial to the expectations of both leaders and followers (Avolio, 1999; Sarasvathy et al., 2014, 2019).

Trust might lead to more 'freedom' to deviate from current management and involve in management innovation. Furthermore, more studies are expected to examine the development and the implementation of management innovations in companies and highlight the relationship between leadership, trust, and management innovation.

As to the potential moderating role of effectuation on the relationship between leadership styles and innovation management, the current study contributes to prior studies that examine effectuation on the entrepreneurial level (Sarasvathy, 2001b; Brettel et al., 2011). Surprisingly, however, we found that leaders become more effective for generating and implementing management innovation through effectuation.

As described by Sarasvathy (2008, p.87), “effectuation is a general theory of decision making in uncertain situations that focuses on existing means and on selecting between effects”. Sarasvathy adds that it is “to the extent we can control the future we do not need to predict” [Sarasvathy, (2001b), p.251].

This research provides some guidelines that help managers to recognise the communication gap between leaders and their employees. It is true that some leaders share little common ground with their employees who are sometimes predictive thinkers. Recognising this issue raises another example, where successful leaders should be models in their thinking, providing predictive information to their organisation while using the effectual logic during their activities. Furthermore, transformational leaders are responsible for generating innovation and nurturing the environment with knowledge to enhance the organisation’s results.

The current research investigates some organisational traits and their impact on innovation management through structural equation modelling. However, there exist several limitations that can be considered when interpreting the results of the current research. First, the questionnaires used are based on self-reporting and “may be subject to social desirability biases, common method variance, and response distortion due to ego defence tendencies were a concern” [Noruzy et al., (2013), p.1082].

The second limitation can be within the sample of the study. Researchers should be cautious and never generalise when interpreting the results of their studies. Organisations differ in cultures and thus, may supply different results. For this reason, other studies are suggested to investigate the variables used in this study but in different cultural and organisational settings.

Finally, this research examines some variables affected by transformational and transactional leaderships. Other variables and antecedents in future studies are suggested to focus on, in a longitudinal study. In the same vein, effectuation is a multi-dimensional construct and one dimension is examined in the current study (who I am), so it is useful to test the other dimensions too in further studies.

5 Conclusions

The primary role of this study is to initiate a dialogue about the role of leaders in managing creativity and innovation for sustainable firms. In the same sense, we hope that we have highlighted the role of the two types of leaders, the transformational, and transactional with effectuation in the pursuit of management innovation. Thus, the current results can be considered as a development to the theory of effectuation.

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Appendix

A *Transformational leadership scale items*

- 1 The leader instils pride and faith in his employees by overcoming obstacles and confidently expressing dissatisfaction with the status quo.
- 2 The leader inspires employees to enthusiastically accept and pursue challenging goals and a mission or vision of the future.
- 3 The leader communicates personal respect to his employees by giving them specialized attention and by recognizing each one's unique needs.
- 4 The leader comes up with new ideas that prompt his employees to think conventional practice and thinking.

B *Transactional Leadership scale items*

- 1 The leader promises to provide valued rewards for good performance.
- 2 The leader provides rewards depending on performance.
- 3 The leader takes corrective action when problems arise or things do not go as planned.
- 4 The leader takes corrective action when problems arise or things do not go as planned.

C *Who I am scale items*

- 1 My company has the necessary capital for a good performance.
- 2 My company has needed assets to achieve good performance.
- 3 My company can provide technological capabilities in technology-related business.
- 4 My company has internal R&D business.
- 5 My company has the necessary patents related to the business.

D *Management innovation scale items*

- 1 Managers in my company set the new rules.
- 2 Managers in my company set the new procedures.

- 3 Work performance in my company is expressed by routines that govern the work of people as well as how reward is set up.
- 4 The way in which organizations arrange communication, support and control their members' efforts, provides the context in which work is performed.

*The five point frequency responses are: 1 = never, 2 = rarely, 3 = sometimes, 4 = often, 5 = always