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Doctor Degree in **Economics**

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Review of the doctoral dissertation of

Mr. Nizar M. Benazzouz, M.B.A., M.A.

entitled „**Entrepreneurial orientation and innovation performance**

on the example of French businesses” written under

the scientific supervision of prof. dr hab. Krzysztof Wach

at the College of Economics, Finance and Law, Department of International

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1. GENERAL EVALUATION

The foundation for preparing the review is the letter no. RDC.600.1.2.2021 from 23 February 2021 signed by prof. dr hab. Stanisław Popek, the Director of the Doctoral School of the Cracow University of Economics with a request to evaluate the above mentioned doctoral dissertation (based on art. 190 par. 2 of the Law of 20 July 2018 on Higher Education and Science, Dz. U. 2020, item 85, with later amendments).

The reviewed doctoral dissertation entitled „Entrepreneurial orientation and innovation performance on the example of French businesses” should be assessed positively. The thesis includes a proper review of literature and prior research review in this area, as well as the analysis of secondary sources and, most importantly, an original primary study, which was carried out by the PhD Candidate, providing some contribution to the development of the area of international entrepreneurship and innovation. The doctoral dissertation prepared by Mr. Nizar M. Benazzouz is a study, which in my opinion, should

generally be assessed rather positively, albeit with a number of reservations which must be explicitly acknowledged in the evaluation.

The substantive evaluation of the doctoral dissertation has been prepared taking into account six criteria, i.e. .:

- the significance of the research problem raised in the reviewed dissertation,
- applied research methodology,
- used literature on the subject,
- the structure of the dissertation,
- detailed assessment of particular chapters of the dissertation,
- language and editorial aspects of the dissertation.

2. SUBSTANTIVE EVALUATION

2.1. Significance of the research problem raised in the reviewed dissertation

In his doctoral dissertation, Mr. Nizar M. Benazzouz draws from entrepreneurship and innovation literature, as well as the organizational learning stream, in order to combine several key research topics, i.e. (i) entrepreneurial orientation of the firm, (ii) its innovation performance and (iii) the mediating role of ambidextrous leadership in the said relationship. Firm innovativeness in times of increased competition in international markets has been an important topic of academic inquiry and the question as to the determinants and facilitators of a firm's innovativeness are indeed of utmost theoretical and practical relevance. By attempting to link the entrepreneurial orientation with firm innovativeness, and specifically the output of the innovation process, the author makes without doubt a valid contribution to extant research.

Also, the incorporation of ambidextrous leadership into the innovation process should be praised, as innovativeness requires diverse approaches to organizational learning. In fact, while exploration has been often equalled with the generation of new knowledge and resources, while exploitation has been commonly associated with the use thereof, in reality both are modes of organizational learning which can effectively contribute to the outcomes of a firm's activities in different ways. However, as they require different managerial approaches due to their different focus and objectives, their concurrent use may

turn out to be challenging and can therefore indeed determine a firm's competitive edge in its market.

Notwithstanding, the author of the dissertation does not devote sufficient attention to justifying the adopted conceptual and empirical focus. The introduction does not really convincingly explain why the topic of entrepreneurial orientation in conjunction with innovation performance is under-researched, nor why looking into the concept of ambidextrous leadership can bridge that gap. Also, it is a bit surprising that while the title suggests that the relationships under study are explored in the context of French firms, there is no precise explanation what types of firms are specifically studied and for which reasons related to the expected contribution of the study.

2.2. Research methodology (assumptions, objectives, hypotheses, methods)

The reviewed dissertation can be placed in the mainstream of research on entrepreneurship and innovation.

The main objective of the reviewed dissertation is *“to determine the relationship between entrepreneurial orientation (EO) (as the independent variable) and firm and innovation performance (as dependent variables) through the analysis of relationships between various input and output factors in order to find the correlations within a multitude of possible factors based on a sample of French businesses”*. To achieve the main objective, the Author also sets four detailed objectives (p. 11):

- O1:** *Presentation and discussion of main theoretical concepts behind entrepreneurial orientation and some recent developments (Chapter 1).*
- O2:** *Presentation and discussion of the main theoretical concepts behind innovation performance and how innovation input and output must be differentiated (Chapter 2)*
- O3:** *Presentation and discussion of the main theoretical concepts behind ambidextrous leadership and how to measure it (chapter 3).*
- O4:** *Determining the relationship between entrepreneurial orientation, ambidextrous leadership and Innovation performance according to the literature (chapter 3).*
- O5:** *Developing a rational empirical research model based on previous literature study and our understanding as well as expectations of the relationships among variables (chapter 4).*
- O6:** *The exploration of the empirical results and drawing conclusions and suggestions for further research (Chapter 5).*

The author argues that the goal of the dissertation is to determine the relationship between entrepreneurial orientation and innovation performance. One may wonder, however, if the term “determine” is suitable for formulating such objective, or rather concepts like “investigate” or “explore”. In general, both the main objective and the detailed objectives are mostly achieved by the PhD Candidate.

The dissertation uses a quantitative research design, in which the following research hypotheses were formulated:

H: Entrepreneurial orientation positively influences the outcome of innovation in small and medium-sized enterprises (SMEs) by enhancing the frequency, degree and performance of the innovation output.

The following eight detailed hypotheses can be stated:

H1: SMEs with higher entrepreneurial orientation, have higher overall innovation performance.

H2: SMEs with higher entrepreneurial orientation, innovate more frequently or at a higher pace.

H3: SMEs with higher entrepreneurial orientation, conduct more research and apply more disruptive or radical innovations.

H4: Businesses with higher ambidextrous leadership degree, have even better innovation performance on average.

H5: SMEs with higher entrepreneurial orientation, have better overall business performance.

H6: SMEs with higher entrepreneurial orientation, have higher internationalization level.

H7: LSEs with higher entrepreneurial orientation, have higher process innovation.

H8: Entrepreneurial businesses evolving in fast-changing environment have better innovation performance.

Regarding the list of research hypotheses, there is a number of main overarching problems with it. To start with, it is not clear how all of them are linked to the main hypothesis. Specifically, while H1, H2, and H3 seem to specify H on the side of the dependent variable (although this is not properly explained upfront), H5 introduces business performance as a new variable not included in the main goal and relationship. So does H6

with internationalization level. H7 adds the context of LSEs and process innovation, while the goal and main hypothesis is focused on SMEs. H8 adds the context of the fast-changing environment. While one would expect a consistent, clear mediation model with few, well-substantiated relationships reflected in the set of hypotheses, the list grows in different directions, which is confusing to an attentive readers.

Furthermore, the said confusion comes with the heterogenous vocabulary used in the hypotheses on the side of independent and dependent variables. Particularly when provided in the introduction outside of the literature review context, the list of hypotheses does not feel solidly rooted in extant literature. Expressions like “even better performance” (H4) add to the ambiguity with the hypotheses, as do the expressions “disruptive or radical innovations” (H3) or (more frequently or at a higher pace) – while the reader may deduce that it is synonyms rather than additional variables in the hypotheses, these hypotheses should be kept as straightforward and precise as possible.

As far as the analytical methods are concerned, the PhD Candidate used a range of typical tools used in a quantitative design, including descriptive statistics and linear regression analyses, including mediation analysis. One needs to note that while reliability tests are important in survey research, they are themselves not implemented to support empirical hypotheses.

One may wonder why the author did not use models including various research hypotheses simultaneously, such as structural equation modelling (SEM). Using single regressions does often provide high levels of significance, as is the case here, which would call for more caution with claiming very strong results.

As regards Figure 31, a question arises why correlations and not regression coefficients are reported on the graphic? (the same remark pertains to Figure 32)

2.3. Used references

The final bibliography list includes 274 references, including various books, articles from peer-reviewed journals, press articles, analytical reports and white papers. The peer-reviewed journals are mostly internationally well-known and reputable. Overall, the relevance of the sources for the focus of the dissertation is appropriate for the most part.

Most references are in English, although for obvious reasons, publications in French are a visible group. The proportions, however, are entirely acceptable and account for a

positive diversity of the used body of references. The latest publications published in the last 10 years (from 2010) constitute an important part of the entire literature. The selection of literature in terms of academic quality can be evaluated as proper for a doctoral thesis.

One may note the use of old sources like Cantillon (1755), whereby one may wonder whether access to the original source was obtained of the work was cited after some other author. Overall, the volume and quality of the used references can be regarded as average, yet acceptable for a PhD thesis.

2.4. Structure of the dissertation

The reviewed dissertation consists of 189 pages of standard typescript (including the text of the dissertation included on 150 pages, i.e. on pp. 10-160) which positions the thesis below an average volume typical for PhD theses in this academic field. This limitation coincides with a limited level of conceptual elaboration, which will be touched upon later in the review.

The dissertation consists of five chapters, the first three of which are mostly in the form of a theoretical review introducing basic concepts and reviewing research on the chosen research problem. The fourth chapter is methodological and the last – fifth chapter – is empirical. The whole study ends with the conclusions, as well as the list of literature, figures, tables and annexes with questionnaires. The dissertation is of theoretical and empirical nature, and the internal structure of particular chapters is generally correct and logical.

Chapter 1 introduces the main ideas and theoretical concepts of entrepreneurship and entrepreneurial orientation in business studies. Chapter 2 then discusses the concept of innovation performance in literature, setting off with the context of innovation through the lens of different innovation models. Chapter 3 provides a review of studies around EO and IP, as well as defines Ambidextrous Leadership, presents its measurement and its link with innovation performance according to other authors. It has to be noted here that Section 3.1.4. Measuring ambidextrous leadership should have preceded 3.1.3. Ambidextrous leadership and innovation performance so that the basic concepts are defined before they are linked to each other.

Chapter 4 explains the research framework, the objectives, detailed hypotheses, and goes on to present the research methods. Chapter 5 presents the results of the statistical

analysis to determine the relationship between entrepreneurial orientation, innovation performance, and other variables.

One may argue that Chapters 4 and 5 could be linked instead of fragmenting the thesis. Especially section 5.1. talks in a repetitive manner about the data collection process which was covered already in Chapter 4.

Also, while it may be a matter of taste, the Figure in chapter 4 could have been placed in the appendix rather than in the main body of the text.

The hypotheses verification with the related empirical results is not presented in order of appearance of the hypotheses on their original list.

2.5. Detailed assessment of particular chapters of the dissertation

In terms of the substantive content, the dissertation ultimately receives a positive assessment, but it is nevertheless crucial to make some specific reservations.

The argumentation of **Chapter 1** rightly starts at a more general level, by discussing different types of entrepreneurial firms (including the work of Miller, 1983). Thereafter, the concept of corporate entrepreneurship is defined, which is legitimate and appropriate given the focus on entrepreneurial orientation. One may argue, however, that the explanation of the entrepreneurial orientation becomes operational, if not technical, early in the chapter, without going deeper into the conceptual foundations of this key term of this dissertation. For instance, on p. 26, what the author refers to as “conceptual definitions”, are more of operationalizations. In this context, it is not entirely clear on p. 26 if the “(i) aggregate” and “(ii) superordinate” characteristics are mutually exclusive or can be regarded jointly.

Figure 3, like other figures discussed later in this review, adds new concepts or dimensions instead of summarizing the argumentation leading to it. Also, it missed out the aspect of attitudes which is also crucial to the understanding of entrepreneurial orientation. Overall, despite some merits of this chapter in explaining the fundamental concepts, the argumentation feels chaotic and eclectic in a way which does not always seem equally thoughtful.

Tables 3 and 4 disturb the flow of the chapter, as they feel as if their place was more in an appendix (they focus on operationalizations rather than some reviewed theoretical concepts). Section 1.4 subsequently refers to EO construct, so one may wonder what the

previous sections were explaining, in light of the above remarks on the technical focus of the related discussions. Overall, throughout section 1.4. and its subsequent summary, an overview of operationalizations precedes overall conceptual foundations, which one would expect at this place in a dissertations, while operationalizations are usually discussed when it comes to specific measurements once the hypotheses and the resulting analytical framework have been exhaustively formulated. This problem is reflected by the fact that the summary after section 1.4 mentions which type of Likert scale was used to measure entrepreneurial orientation, which is a rather technical aspect (also, different scales can be used depending on scholars), not adding substantial value to the understanding of the nature of entrepreneurial orientation that one might expect after such chapter.

While section 2.1. of **Chapter 2** refers to the concept of innovation and its context, this does not really materialize, as the section acts more as a brief introduction into next sections. Section 2.2. does provide a useful overview of traditional literature on innovation, whereby particularly subsection 2.2.2. delivers an interesting look at innovation from a number of perspectives, although it is based on dated references. For instance, Figure 4 is dated and does not account for the recent developments in innovation ecosystems, which include various institutions for collaboration or entities supporting firms in their innovation development (only later does the author mention about the concept of open innovation).

Section 2.3 provides an interesting overview of different approaches to classifying various degrees of innovation, although the connection to the previous section is not well explained. In general, the author focuses on technological or process innovations throughout the thesis, while it is becoming increasingly interesting to look at business-model innovations, particularly for firms from emerging markets whose competitive advantage in technology is not as sharp and therefore they may not be class-leading in technological innovation. The author may be aware of such concepts as frugal innovation, which may not necessarily based on superior technology yet still add substantial value for the end users in different ways. Other forms of innovation are only briefly acknowledged in the section “disruption beyond technology”.

Figure 11 refers to a “multi-variate model” which evokes some statistical associations, rather than referring to the dimensions of innovation, especially that above this figure the basic definition of innovation is provided. Like for most other figures and tables, a fundamental problem of the dissertation is that they are inserted into the body of the text

without much justification and elaboration, especially if figures introduce additional concepts or abbreviations (like the said Figure 11). Subsequently, Figure 12 is also not clearly related to a place in the narration, and not properly commented upon, which adds to the aforesaid impression that figures “diversify” the text, while not really adding insight to the discussion. On p. 71, the PMI model is introduced without much elaboration: while the argument that the innovation process is a project which can be managed, is not explicitly developed.

The chapter then turns towards a review of practical approaches towards project management (Scrum, Agile, etc.) which, in the absence of a prior discussion of theories underlying innovation and entrepreneurial orientation, appears to be a bit scarce and superficial. The figure with “Agile Manifesto” is also unclear with regard to its purpose and origins, as it lacks – again – some more substantial elaboration in the main text. Overall, while one may appreciate using the logic of “input-process-output”, this is not fully leveraged to link various concepts in a more structured manner, to these three dimensions (which would have potentially accounted for an interesting review of research on firm innovations, if executed exhaustively). Accordingly, section 2.5 distinguishing innovativeness and innovation performance would have suited such structured review systematizing various concepts along the mentioned dimensions. Instead, Figure 19 adds yet another framework without a clear link to the text. Likewise, Figure 20, while rooted in a section on innovation performance, is labelled as “Summary of innovation as process”, which is confusing, as the purpose of the figure is very legitimate: it basically does a good job at positioning the concepts against each other, building on the input-process-output idea. It is a pity that this was not better discussed and also that it did not serve to structure the chapter more consistently. Section 2.6. is important to the objectives of the thesis, and from this perspective surprisingly scarce – it would have definitely deserved at least an additional summary table.

As far as **Chapter 3** assessment is concerned, the discussion related to exploration and exploitation may have been more rooted in the theoretical context of organizational learning theory, in order to provide an appropriate conceptual underpinning. While the argument of the author that leadership plays an important role for innovations, and that a combination of exploration and exploitation is crucial, this may have been more exhaustively explained by starting from the nature of exploration and exploitation and their role in

generating new knowledge, as well as the challenges of combining them within the process of management. The author reviews various leadership theories synoptically, instead of discussing their linkages to the main framework of the author including inputs, process and outputs – in fact, different perspectives on leadership (such as those emphasizing traits, skills, or behavior) do shed light on different aspects of innovation, as well as entrepreneurial orientation itself. Such discussion would have nicely complemented the point that the author is rightly raising with regard to different leadership styles required in innovation management. Hence, especially point 3.1.3 Ambidextrous leadership and innovation performance should have introduced some more insightful discussion, and not a synthetic table. Again, Table 7 provides a synthetic overview of the linkages between entrepreneurial orientation instead of a more comprehensive discussion. The conclusion that entrepreneurial orientation does affect firm performance is not surprising, rather it would have been interesting to look at the boundary conditions of that relationship and in this way also provide a more substantial justification to studying ambidextrous leadership.

Chapter 4 opens with a summary of research gaps, which – however – may have been better linked to the literature review in the preceding chapters if these gaps were more extensively discussed in those chapters or appeared in the respective chapter summaries in a more explicit manner. Also, the fact that the author is using a mediation model at the empirical level, should have been argued for conceptually at the level of identifying research gaps. The research model shown in Figure 23 re-asserts the aforementioned doubts about the consistency of the research model. As a matter of fact, not of all of its constituents (notably internationalization level, and partly also firm performance), have been covered exhaustively in the thesis and their appearance in the analysis is therefore not evident.

While reviewing the methodological description, one would expect more detail on the sample structure with regard to the sectors of the studied firms. In conjunction with the unclear focus on French firms of different sizes, this lack of information adds to the overall confusion as to the intentions of the author.

The discussion of the findings in **Chapter 5** falls short of expectations, particularly with regard to the aspect of mediation. Also, the conclusion of the thesis is overly short and directions for future research are signalled only very briefly, again unfortunately below an expected level for a PhD thesis in this discipline.

2.6. Language and editorial aspects of the dissertation

From the linguistic and editorial side, the reviewed doctoral dissertation can be assessed as only satisfactory, as there is a number of formal shortcomings that should not be repeated in the future (even if such editorial deficiencies may occur in many studies). Generally, it should be assumed that the doctoral terminology and vocabulary used in English are correct, adequate for the discipline of the economics and finance.

Specifically, the text would have deserved more meticulous proofreading, as there are numerous language flaws or stylistic problems almost in all parts of the text, some examples including:

p. 10 – leaded (instead of “led”)

p. 16 – “architypes” in Table 1 label

p. 21 – citation of a definition from Hornsby et al. 1993 without a page

p. 24 – “operational characterization proposed by Covin and Slevin (1989)

Inconsistencies – e.g. intro does not mention regression

p. 26 “Liket’ scale”

p. 29 – “The first model under discussion...” – but no models are mentioned before this point, which disturbs the argumentation flow

p. 40 – “deep diving into innovation theories” (colloquial)

Figure 22 refers to “divergent interactions”, while the author most likely meant relationships in general

p. 131 – controlling for, not with

the thesis presents raw results from SPSS, rather than “journal format”!

p. 142 it is “fair to confirm” – so one may wonder, if it is fully confirmed or not (or just partly).

Apart from numerous linguistic issues, the dissertation is also not carefully crafted in terms of document editing. There are some minor issues with table and figure labelling (for instance, on p. 25 – in the table label there is inconsistent use of capital letters). For Table 4, the source reads “inspired from...” (same for Table 5). Typically, scholars use the expression “adapted from” or “modified from”, so one may wonder, to what extent the figure is taken over, and to what extent it is the author’s own work here.

Throughout Chapter 5, the numbering of tables is different between the table labels and the references in the main body of the text, which makes it more difficult to navigate across the tables.

There are also some shortcuts or unfinished thoughts, such as on p. 157 it is unclear what it means that “Entrepreneurial orientation has a positive influence on firm performance within the French market mostly.”

3. QUESTIONS TO THE DOCTORAL CANDIDATE

The review of the doctoral thesis raises a number of questions which should be answered during the defence of the thesis:

- On p. 158 it is mentioned that product innovation is crucial to SMEs with high entrepreneurial orientation, while process innovation matters for large firms. How can you comment on this finding beyond the cost-cutting pressures in large firms? In light of your research, what can you say about business model innovations and their relevance for SMEs and large firms?
- The adopted operationalization of ambidexterity points out that exploration happens at the opening, while exploitation at the closure. Can other sequences be imagined within the innovation process? What is the role of entrepreneurial orientation in shaping such sequences?
- The results refer to French businesses. To what extent can these findings be extended to other geographies, as well? What are the limitations of such generalization, i.e. which elements can be regarded as specific to the French context?

4. FINAL CONCLUSION

Summing up, on the whole I evaluate the reviewed doctoral dissertation moderately positively, and this relative predominance of positive elements in the evaluation is mostly due to the following:

- a multidisciplinary approach, integrating the fields of entrepreneurship, innovation, and organizational learning
- an empirical approach which goes beyond simple direct relationships and considers a mediated relationship
- a sufficiently big empirical sample for a doctoral thesis
- a correctly designed questionnaire tool building on extant relevant research

In my opinion, the reviewed doctoral dissertation generally meets the statutory criteria set for the doctoral dissertations in art. 187, paragraphs 1 and 2 of the Law of 20 July 2018 on Higher Education and Science (Dz. U. 2020, item 85), i.e.

- the reviewed dissertation is an original solution to the scientific problem, which is an empirical study of the mediated relationship between entrepreneurial orientation and innovation performance.
- the reviewed dissertation demonstrates a general level of theoretical knowledge of the PhD Candidate in the discipline of economics and finance, especially in the fields of entrepreneurship and innovation.
- the reviewed dissertation confirms the PhD Candidate's ability to conduct scientific research independently in the future.

Recapitulating, I believe that the reviewed doctoral dissertation of Mr Nizar Benazzouz entitled "**Entrepreneurial orientation and innovation performance on the example of French businesses**" meets the statutory requirements quoted above and on this basis I apply to the Council of the Discipline of Economics and Finance of the Cracow University of Economics **for its admission to the public defence.**

Piotr Trępczyński