



Effect of continuous vocational training on the innovativeness and performance of producers and processors in rice and soybean value chains in central Benin

Farène NOUATIN, Mori GOUROUBERA and Ismail Moumouni-Moussa

Laboratory of Research on Innovation for Agricultural Development (LRIDA),
University of Parakou, Benin Republic.

LELAM Conference

04 - 05 April 2024

OUTLINE

- Introduction

- Conceptual and theoretical frameworks

- Methodology

- Results and discussion

- Conclusion

Outline

①

②

③



INTRODUCTION (1/2)

Agricultural Sector

Sub-Saharan Africa : A central role in development and employment policies (Réseau FAR, 2021)

Benin: Source of approximately 70% of employment (World Bank, 2019)

Essential lever for improving the living conditions of rural populations, creating jobs, and generating added value in agricultural value chains

Agricultural Development

Agricultural training

Enhance skills, Increase the productivity of rural actors (ILO, 2022)


- Countries have shown interest in the training of experts in rural development and the dissemination of agricultural practices
- Vocational training of farmers has been very little developed (Besson, 2012)

- The Ouagadougou seminar : national strategies for agricultural and rural training (SNFAR) in several countries, including Benin (**Réseau FAR, 2021**)



- **Goal** : Offering adapted training programs and strengthening necessary skills
- Some programs (initial training, integration, and installation of youth)

Continuous Vocational training

- Many Research on continuous training but very limited on the agricultural field (**Paranthoën, 2021**)
- Positive linking between continuous training and innovation (**Bauernshuster, Falck, and Hebllich, 2009**)
- Strengthens learning capacity and influences propensity to innovate (**Tourabi et Ait Errays, 2019**)  Component of innovativeness

How does continuous vocational training influence the innovativeness and performance of producers and processors in central Benin ?



Conceptual and theoretical frameworks (1/2)

Vocational Training

Learning process aims :

- To Acquire the essential skills :knowledge, know-how, and interpersonal skills
- Necessary to carry out agricultural activity

Continuous Training

- Strengthen farmers' skills over the long term
- Empower them in managing their farms, (Lhoste, 2019)
- Meet their practical and technical needs

Innovativeness

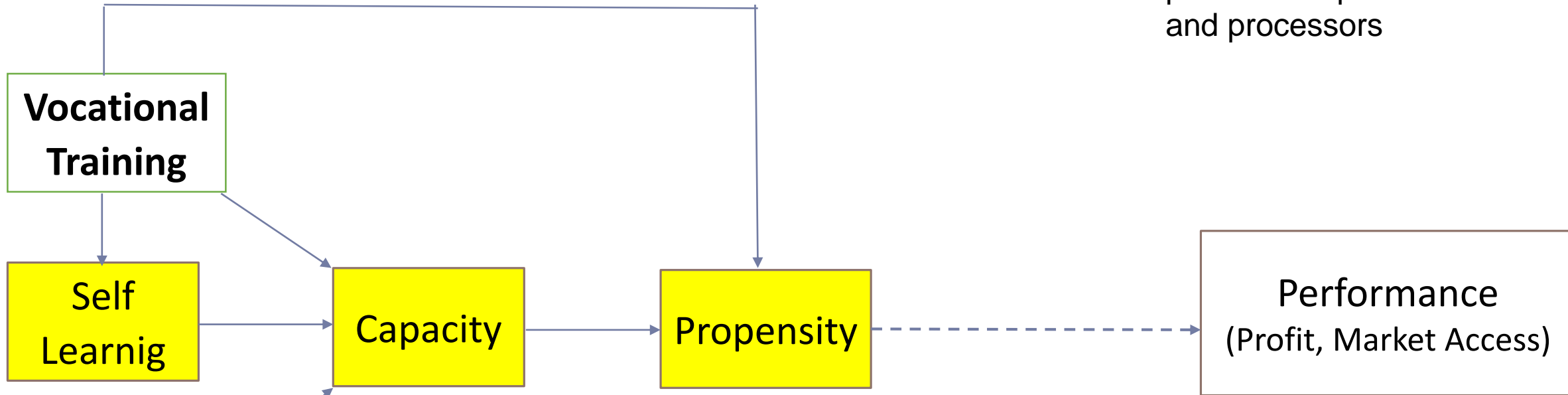
- Determine factor in the adoption of innovations

3 Dimensions

- Innovation Capacity (Dosso et al., 2021)
- Innovation Propensity
- Innovation Practice

Human Capital Theory
(Becker, 1964)

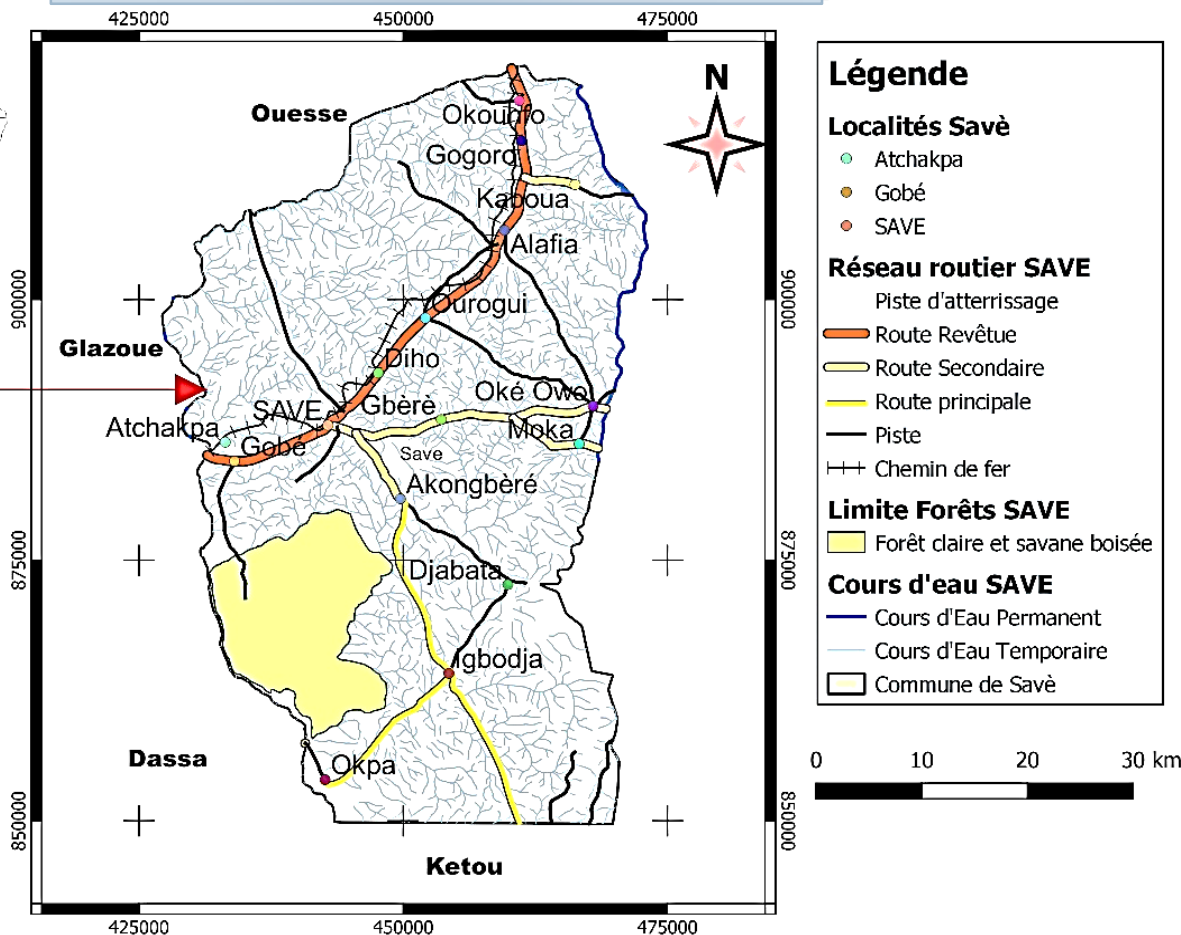
■ Learning and innovation process of producers and processors



Type of stakeholder

Innovation Theory
(Rogers, 1995)

Municipality of SAVE



Réalisée par NOUATIN
Farène, ESR
Source: Fonds
Topographiques, IGN-Bénin
WGS 84, UTM 31 N



Area of study

- Central Benin
- Municipality of Save
- Key sectors in agriculture of this area: Rice and Soy bean

Random Sampling (240)
including: 120 beneficiaries and
120 non-beneficiaries;
30 rice processors/producers
30 processors/producers

Structural Equation Model

- Reliability analysis
- Exploratory factor analysis
- **Lavaan R Package**



Sociodemographic characteristics	Age, gender, education level
Self-learning capacity	Measured using a Likert scale based on the theory of double-loop learning (Argyris & Schön, 2002)
Innovativeness -Capacity, -Propensity	Measured using the Laboratory's innovativeness measurement Likert scale
Performance	Profit, market access

How does continuous vocational training influence the innovativeness of producers and processors in Central Benin?

Methodology (3/3)

Reliability analysis

Variables	Reliability analysis	Exploratory factor analysis	
	Cronbach's Alpha	KMO index	Bartlett's test coefficient
Self-learning	0,703	0,686	0,000
Propensity	0,754	0,610	0,000
Capacity	0,728	0,659	0,000

Index values	Absolute fit index				Incremental fit index		Parsimony fit index
	TLI	GFI	AGFI	RMSEA	NFI	CFI	Khi-square/ddl
Model	1,17	1,00	0,99	0,000	1,17	1,00	$\chi^2 = 12,4, \chi^2/df = 0,78$

Farmers

- Farm management,
- Production techniques,
- Field preparation techniques,
- Seeding techniques,
- Field maintenance techniques (fertilization, weeding, pesticide treatment),
- Improved harvesting and post-harvest techniques,
- Storage techniques,
- Certified seed production techniques,
- Training on the use of the Farmer Link application

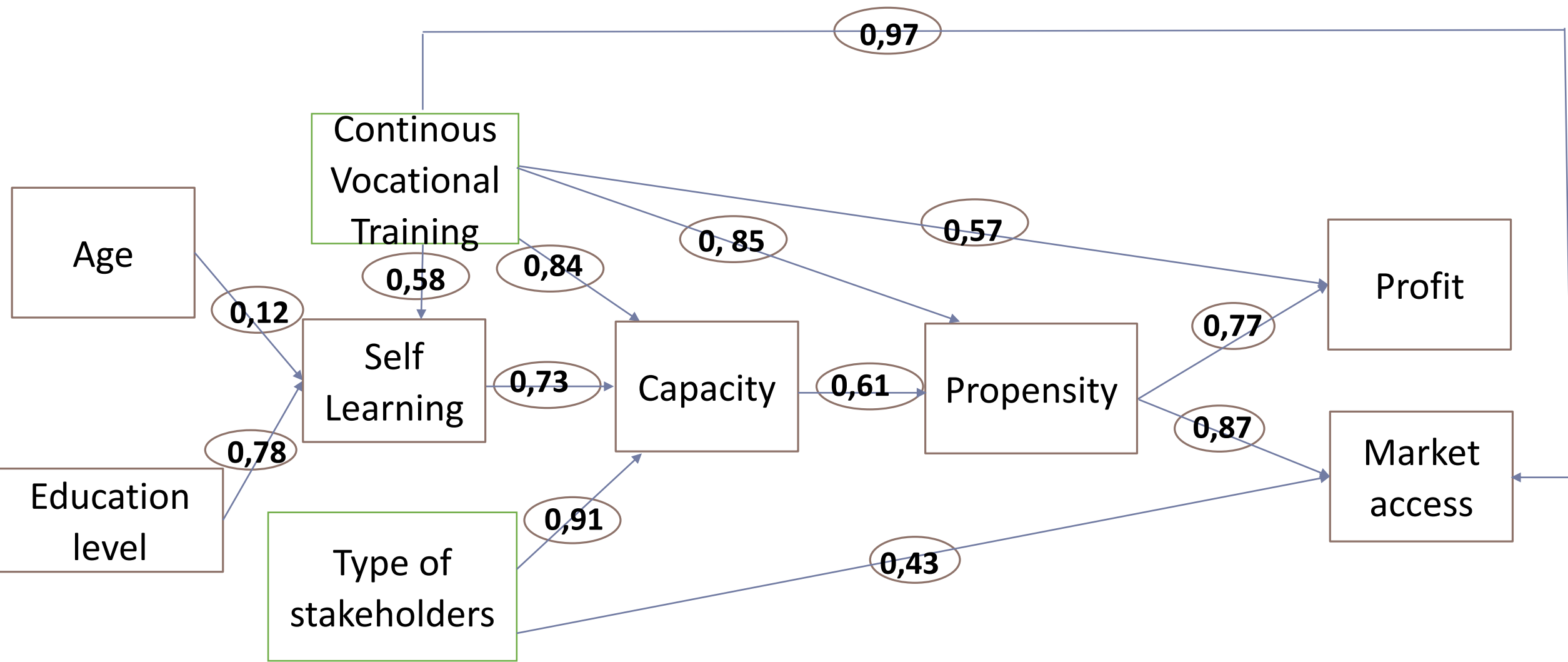
Processors

- Processing techniques,
- Women's leadership,
- Good hygiene and processing practices

Farmers/Processors

- Financial education and access to credit,
- Cooperative agricultural entrepreneurship,
- Marketing, group sales, negotiation and contracting,
- Business plan development
- Solidarity Group for Savings and Credit,
- How to keep a management notebook
- Value chain (soy bean/rice)

Continuous Vocational training influences the innovativeness



Discussion

- Continuous Vocational training influences the self-learning of beneficiaries, the innovativeness of the beneficiaries
- Self-learning influences the innovativeness of the beneficiaries

Tourabi and Ait
Errays, (2019)

It's enhance their performance by :

- increasing their profit (increasing selling prices),
- improving their market access (minimizing marketing costs).

Dosso and al.,
(2023)

Continuous Vocational training reveal its importance in:

- reinforcing farmers self learning,
- improving their innovation capacity or propensity for their overall farm performance

Building Continuous Vocational training for farmers requires:

- to tailor the trainings
- considering their age and education level



References



- Besson, I. (2012). Enjeux, défis et actualité de la formation agricole et rurale en Afrique francophone : Quelques pistes de réflexion et de travail. 86.
- Dosso, F., Gouroubera, M., Idrissou, L., & Moumouni-Mousa, I. (2023). The combination of extension approaches strengthens farmers' innovativeness in sustainable land management. *Environment, Development and Sustainability*. <https://doi.org/10.1007/s10668-023-03134-y>
- Houaga, R., & Moumouni-Moussa, I. (2023). Understanding Psychosocial Mechanisms of Farmers' Propensity to Innovate in a Context of Cluster-Based Agribusiness Development. *Journal of Agricultural Studies*, Vol. 11(No. 2), 1-13.
- Lhoste, F. (2019). Rénover les dispositifs de formation agricole—Inter-réseaux. <https://www.inter-reseaux.org/>. <https://www.inter-reseaux.org/publication/grain-de-sel-n77-le-conseil-agricole-a-t-il-encore-un-sens-aujourd'hui/renover-les-dispositifs-de-formation-agricole/>
- Paranthoën, J.-B. (2021). La formation continue publique en agriculture : Mission impossible pour les Centres de formation pour la promotion agricole ? *Sociologie du travail*, 63(4), Article 4. <https://doi.org/10.4000/sdt.40038>
- Réseau FAR. (2021). La formation continue des agriculteurs et agricultrices : Éclairages sur les enjeux et nouvelles approches pour l'Afrique subsaharienne. https://www.reseau-far.com/wp-content/uploads/2021/07/09072021_IRAM_Formation-Agriculteurs_T1_BD.pdf
- Tourabi, A., & Ait Errays, N. (2019). L'effet de la formation continue sur la capacité d'innovation : Cas de l'agence Nationale des Ports au Maroc. *Revue de l'Entrepreneuriat et de l'Innovation*, 11(8), 1-14.

